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Integrated Life-Cycle Hazardous Material Management

A Logistics Imperative for USAREUR and the 7th Army

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EXECUTIVE SUMMARY

Within the existing United States Army Europe (USAREUR) and 7th Army and greater Army logistics system, hazardous materials (HMs) are managed as "consumable supplies." For this reason, few if any controls are in place to restrict access to them, and individuals and leaders consider HMs with a lesser degree of management concern. Virtually any organization can order HMs through the supply system, in any quantity, regardless of whether it has a valid requirement to use them. This situation has resulted in the purchase and stockpiling of large quantities of HMs that ultimately are declared excess and must be disposed of as hazardous waste (HW).[1]

Within Headquarters (HQ), USAREUR, the Office of the Deputy Chief of Staff, Logistics (ODCSLOG), has had primary responsibility for the procurement of materials (hazardous and otherwise) for tenant units. Concurrently, the Office of the Deputy Chief of Staff, Engineer (ODCSENG), resources the removal and disposal of HW (in conjunction with its broad responsibility for environmental compliance).

This approach to program management is inherently problematic. HW generation and disposal simply represent the end of the normal life cycle of HMs. Accordingly, managing HMs and HW throughout their entire life cycle as a fully integrated program, under the lead of a single agency—ideally one from the logistics community—is more logical. Because USAREUR has been largely unable to alter existing program management schemes, HM disposal costs (approximately $6.3 million in FY98) generally have remained invisible to the responsible procuring and waste generating organizations.

[1] For example, an HM inventory of the 293rd BSB at Mannheim revealed that 47.8 percent ($320,000) of the HM was excess. For additional information, see Science Applications International Corporation report, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd BSB, Mannheim, Germany, Inventory of Hazardous Materials*, March 1997.

Improved business practices can reduce HM requirements, resultant waste streams, and overall program management costs. Known collectively as the "pharmacy concept,"[2] these business practices include

- requiring HM authorized use and user lists, as well as HM user stockage lists,
- ordering HMs by unit of use rather that unit of issue,
- establishing HM reuse procedures,
- establishing centralized HM management cells,
- establishing centralized HM issue/storage points,
- implementing an HM tracking system, and
- implementing an HM training and awareness program.

The potential for these business practices to achieve the efficiencies stated above is especially high at the unit (operating) level. If USAREUR is to implement these business practices effectively over the long term, however, it must establish increased HM visibility and accountability within the supporting logistics system itself (the retail level).

Previous studies (validated by the current effort) point to many systemic HM management problems that will be difficult to resolve in the near future with available resources.[3] Clearly, implementation of the pharmacy concept and its associated business practices is a key component of the solution to the HM/HW management program integration issue. Although USAREUR experience with pharmacy pilot projects has been positive, there are concerns about the eventual cost in terms of personnel and other resources required for full implementation across the command. The question is the degree to which this type of solution can be applied in USAREUR in an efficient and cost-effective manner over the long term.

Because of these concerns, USAREUR should take a conservative approach to pharmacy implementation. This approach includes taking steps to integrate proven pharmacy business practices within the existing supply system (and supporting facilities) to the maximum extent practicable, while continuing to evaluate ongoing traditional pharmacy implementation initiatives in consideration of business practice integration results.

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[2] U.S. Army Concepts Analysis Agency, *Assessment of Logistics and Cost for Hazardous Materials Management Implementation (ALCHMMI) Study*, page 2-3, October 1996.

[3] Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials, Kaiserslautern, Germany, Inventory of Hazardous Materials and Waste*, February 1996, and *Feasibility/Cost Benefit Analysis*, May 1996.

After careful evaluation of past studies, historical data, and information gathered during site visits and staff interviews, we conclude the following:

- Current HM/HW management processes do not optimize minimization of HM use and HW generation and will sustain or increase current levels of cost.
- Increased requisitioning and stockage controls within the existing supply system are key to addressing most issues.
- Desired improvements can be achieved (more efficiently and cost-effectively) over the near term by integrating traditional pharmacy business practices in the existing supply system.[4]
- Although this study was conducted for USAREUR, we note that the acquisition, use, and disposal of HMs is an Army-wide problem. Accordingly, where practical, Headquarters, Department of the Army (HQDA) should consider systemic issues, problems, and recommendations for Army-wide implementation.

Before presenting our recommendations, we note that underlying this study is the belief that a more efficient and effective life-cycle solution is achievable at reduced cost within the supply system itself. Our recommendations outline courses of action that will achieve the desired result. A critical component of this solution, however, is implementation of programming changes within the Standard Army Retail Supply System (SARSS) or the Global Combat Support System–Army (GCSS-A) to provide the requisite automated functional support capabilities. *If this cannot be accomplished, the proposed solution may not be realistically achievable, and there may be little recourse except to proceed with earlier proposals for traditional pharmacy implementation.* Notwithstanding this potential outcome, we recommend that USAREUR do the following:

- Request that HQDA incorporate automated HM life-cycle management and tracking functional requirements into SARSS or its replacement, GCSS-A. This would facilitate the life-cycle management of HM/HW—from acquisition through disposal—as a totally integrated program, ideally under DCSLOG lead. Additionally, it would eliminate the requirement for a separate information management system (e.g., the Hazardous Substance Management System, HSMS).
- Request that HQDA sponsor an integrated process team to determine the most appropriate HM units of use (Army-wide) and then provide matching HM units of issue through the supporting supply system.

[4] Note that initial planning guidance from the ODCSLOG included the key consideration that *no additional logistics resources were to be added to the process.*

- Implement HM requisitioning and stockage restrictions in USAREUR by mandating application of authorized use lists (fully integrated within SARSS), authorized user lists, and user stockage lists.

- Integrate the remaining pharmacy business practices within USAREUR's supporting logistics system, using existing facilities, personnel, and organizational relationships.

- Include implementation of improved HM management business practices on future command and annual general inspections to elevate the visibility of the USAREUR Hazardous Material Management Program as a true "commander's program."

- Maximize the use of "green product" catalogs for non-weapons system and facility operations and maintenance applications.

- Establish the capability to track HW disposal to the generator level and increase the visibility of HW disposal to commanders by assigning HW reduction goals and providing appropriate incentives to reduce HM use and HW generation.

- Develop and field a joint DCSENG/DCSLOG regulation integrating all aspects of HM/HW program management and related pollution prevention activities within a single program guidance document.

- Assess the benefits of USAREUR's ongoing pharmacy pilot projects in light of results achieved from the business practice integration recommended in this report. If appropriate, consider expanding the current pharmacy operation at the Kaiserslautern Industrial Center as a "proof of concept" for implementing a regional pharmacy approach in USAREUR.

- Evaluate the results of the Defense Logistics Agency's (DLAs) Joint Environmental Material Management System (JEMMS) proof of concept as a possible transition vehicle for implementing a DoD-wide regional pharmacy concept under DLA management.

- Scrub the items available in Self Service Supply Centers to assure that HM items are eliminated or replaced with "green" substitutes.

- Conduct a detailed assessment of policies and procedures relating to the local purchase of HMs. Where possible, assure that all prudent actions are taken to control HM acquisition on the local economy.

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Chapter 1
Introduction

PROBLEM DEFINITION

Within the existing United States Army Europe (USAREUR) and 7th Army and greater Army logistics system, hazardous materials (HMs) are managed as "consumable supplies."[1] For this reason, few if any controls are in place to restrict access to them, and individuals and leaders consider HMs with a lesser degree of management concern. Virtually any organization can order HMs through the supply system, in any quantity, regardless of whether they have a valid requirement to use them. This has resulted in the purchase and stockpiling of large quantities of HMs that ultimately are declared excess and must be disposed of as hazardous waste (HW).[2]

USAREUR and other Army agencies have undertaken environmental management studies that clearly indicate that improved business practices (e.g., centralized HM management, inventory, and tracking; authorized user lists) can reduce HM acquisition and storage requirements, resultant waste streams, and overall program management costs, while increasing environmental compliance. This is especially true at the unit (operating) level. If USAREUR is to implement these business practices effectively over the long term, however, it must establish increased HM visibility and accountability within the supporting logistics system itself (the retail level).

These improved business practices are collectively known as the "pharmacy concept" for HM management (see Appendix A). Although USAREUR recognizes the inherent benefits of the pharmacy concept, it presently does not have sufficient resources (nor, perhaps, the will) for full implementation across the command.

[1] The term "material" as used throughout this report in the environmental context is essentially equivalent to the logistics term "materiel."

[2] For example, an HM inventory of the 293rd Base Support Battalion (BSB) at Mannheim revealed that 47.8 percent ($320,000) of the HM was excess. For additional information, see Science Applications International Corporation report, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd BSB, Mannheim, Germany, Inventory of Hazardous Materials*, March 1997.

OBJECTIVE

The objective of this study is improved management and integration of the USAREUR HM and HW programs. The focus is the USAREUR logistics system, its inherent life-cycle management processes, and their ability to support proven HM/HW management and environmental pollution prevention (P2) principles. In particular, it includes increasing the visibility of the HW component of HM life-cycle management.

The study will serve as a strategic "road map" for optimum implementation of process changes that previous studies and the current data collection and analysis effort indicate are needed to ensure the long-term health of the HM/HW management program. This road map, together with the accumulated data, will form the basis for major operational changes within the USAREUR hazardous material logistics and hazardous waste management systems.

Although this study was conducted for USAREUR, we note that the acquisition, use, and disposal of HMs is an Army-wide problem. Accordingly, where practical, Headquarters, Department of the Army (HQDA), should consider systemic issues, problems, and recommendations for Army-wide implementation.

BACKGROUND

General

Within Headquarters (HQ), USAREUR, the Office of the Deputy Chief of Staff, Logistics (ODCSLOG), has had primary responsibility for the procurement of materials (hazardous and otherwise) for tenant units. Concurrently, the Office of the Deputy Chief of Staff, Engineer (ODCSENG) resources the removal and disposal of HW (in conjunction with its broad responsibility for environmental compliance).

This approach to program management is inherently problematic. HW generation and disposal simply represent the end of the normal life cycle of HMs. Accordingly, a benefit appears possible by managing HM and HW throughout their entire life cycle as a fully integrated program, under the lead of a single agency—ideally, one from the logistics community. Because USAREUR has been largely unable to alter the existing program management schemes, however, HM disposal costs (approximately $6.3 million in FY98)[3] generally have remained invisible to the responsible procuring and waste generating organizations.

The high cost and potential liabilities associated with HM use and resulting HW generation in USAREUR are increasing the drain on already scarce resources. As a result, USAREUR has established hazardous substance management (of both

[3] Source: Dr. Kurt T. Preston, HQ, USAREUR, ODCSENG, August 1999.

HM and HW) as its top environmental priority in the pollution prevention and hazardous waste programs. HM/HW management issues are complicated by the diverse nature of USAREUR operations and activities, their wide geographical dispersion and integration within civilian communities, and doctrinal issues related to the need for rapid deployment capabilities within tactical units.

HM Management

In conjunction with the Army's ongoing effort to field the Hazardous Substance Management System (HSMS),[4] USAREUR has performed studies and planning for centralized hazardous material management.[5] Conclusions and lessons learned from these studies present a picture of a supply system gone astray. Specific deficiencies or problem areas include the following:[6]

- Too many HM line items stored and significant quantities of unused HM disposed of as HW.
- Poor inventory control and shelf-life management practices, too many HM storage locations, and no accountability for HM once issued.
- Poor documentation regarding HM use, ordering, and appropriate stockage levels, and HM on hand that does not fit the stated mission activities of ordering organizations.

The situation described in these studies generally applies across USAREUR at its 18 installation-equivalent base support battalions (BSBs) and military communities. Among other things, the studies noted that stated reasons for poor HM management included a general lack of time and resources. Although this issue is recognized as a problem across much of the Army, the deficiencies in HM management practices not only increase HW management and disposal costs but open the Army to criticism that it is not taking its environmental stewardship responsibilities seriously. These deficiencies also result in harmful environmental impacts (e.g., groundwater contamination) and host nation compliance violations that probably could have been avoided.

In particular, large quantities of unused, serviceable HMs are being turned in to the Defense Reutilization and Marketing Office (DRMO) (see Table 1-1). Although DRMO makes every attempt to ensure reuse or sale/salvage, a significant percentage of the HM is ultimately disposed of as HW (see Table 1-2).

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[4] HSMS is a Defense Environmental Security Corporate Information Management (DESCIM) automated information system designed to facilitate cradle-to-grave HM management and tracking in conjunction with implementation of the pharmacy concept.

[5] These studies were completed by the 26th and 98th Area Support Groups (ASGs).

[6] Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials, Kaiserslautern, Germany*, February 1996.

Table 1-1. Hazardous Materials Turned In to DRMO by 200th TAMMC by Condition Code, CY95

Code	Value	Percent of total	No. of line items
Serviceable			
A	$605,503	68.6	194
B	$14,295	1.6	3
C	$262,242	29.8	47
Total	$882,040	100.0	—
Unserviceable			
F	$11,061	11	13
G	$90,734	89	104
Total	$101,795	100	—

Source: Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials Kaiserslautern, Germany, Evaluation of the Supply System,* January 1996.

Note: TAMMC = Theater Army Material Management Center, CY = calendar year.

Condition Codes:
A = serviceable: shelf-life remaining is more than 6 months
B = serviceable: shelf-life remaining is 3 to 6 months
C = serviceable: shelf-life remaining is less than 3 months
F = unserviceable: economically reparable material that requires repair or overhaul or is radioactively contaminated
G = unserviceable: material that requires additional parts or components to complete the end item prior to issue

Table 1-2. Excess HM Inventory Data for Selected USAREUR Organizations

	293rd BSB[a]	KIC[b]	Totals	Percent
Value of all HM	$671,300	$303,890	$975,190	100.0
Value of excess HM	$320,477	$238,695	$559,172	57.3
Value of HM disposed as HW	$57,227	$39,686	$96,913	9.9

[a]Source: Science Applications International Corporation, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd BSB, Mannheim, Germany,* March 1997.

[b]Source: Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials Kaiserslautern, Germany,* February 1996.

This deals the double financial blow of having to purchase *and* dispose of commodities that probably were not needed and should not have been authorized in the first place.

HW Disposal

Organizations within USAREUR currently have two options for HW disposal. One is to use local HW disposal contracts established by the Defense Reutilization and Marketing Service–International (DRMS-I); the other is to turn

in HW (and serviceable but excess HM) directly to the supporting DRMO for disposal or other final disposition (e.g., recycling, reuse, off-site sale). Local opportunities for HM/HW reuse, sale, recycling, etc., currently are not pursued.[7]

HW disposal is resourced by HQ, USAREUR, through the area support groups (ASGs) and executed by the BSBs by their initiation of DD Form 1348-1A.[8] Through the DD 1348-1, DRMS-I is able to commit, obligate, and expend USAREUR funds without further control. The system effectively renders disposal costs transparent to the generating tactical activity and, with little oversight or management metrics, is rife with opportunities for complication, mismanagement, or abuse.

DRMS-I maintains a database that tracks waste removal, including disposal and recycling (the majority of waste removed is purportedly recycled).[9] USAREUR analyzed those data in conjunction with the recent completion of a command-wide pollution prevention opportunity assessment (PPOA) and development of a comprehensive P2 strategic plan. Not surprisingly, more than 80 percent of the waste stream consisted of paints; solvents and petroleum, oils, and lubricants (POL); and training-related wastes, such as lithium batteries (see Appendix B for a summary of FY98 HW disposal by ASG).[10]

USAREUR is keenly aware of the costs and liabilities that HM storage and HW disposal presents and is determined to drastically reduce or eliminate its HW generation over the long term.[11] To achieve this goal, the USAREUR P2 plan gives priority to source reduction. This leads back to HM use, which directly results in HW generation. Therefore, the key question is, how does the existing logistics system support (or fail to support) the minimization or elimination of HM use and resulting HW generation and disposal?

Pollution Prevention[12]

Pollution prevention is USAREUR's top environmental priority. There are five goals in the current P2 plan:

- Reduce HM purchase and use
- Reduce HW generation
- Reduce solid-waste generation while maximizing recycling

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[7] *USAREUR Pollution Prevention Plan*, page 8-2, July 1998.

[8] DD Form 1348-1A, Issue Release/Receipt Document, July 1991.

[9] *USAREUR Pollution Prevention Opportunity Assessment*, Historical Investigation, page 7, January 1998.

[10] *USAREUR Pollution Prevention Plan*, page 4-1, July 1998.

[11] USAREUR anticipates increased HM reporting and compliance requirements by host nation authorities in the near future.

[12] Source: *USAREUR Pollution Prevention Plan*, July 1998.

- Conserve energy
- Increase P2 awareness.

The P2 plan focuses on the first two goals because the others are under control.

Under its P2 policy, USAREUR gives first priority to reducing the weight and toxicity of generated wastes. When this is infeasible, it follows other elements of the traditional P2 hierarchy, including recycling, reuse, and treatment. The policy identifies disposal as a last resort.

The strategy to achieve stated HM/HW goals centers on implementing the Hazardous Material Management Program (HMMP) and associated business practices, which may someday include the fielding of HSMS and establishment of HM control centers (i.e., HM pharmacies) at some installations. In addition, PPOAs and P2 plans at each installation will help to identify HW generating processes and activities with cost-effective source reduction potential. These activities can then be targeted for direct application of the desired business practices within the limitations of USAREUR's resources, commitment, and investment strategy.

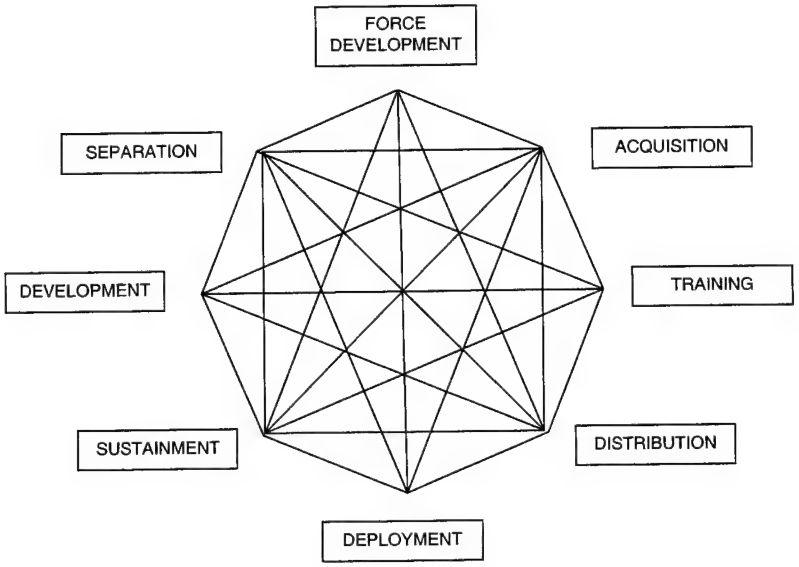
Other common P2 practices—increasing the use of recycled materials, product substitution, and applying state-of-the art P2 technologies (e.g., solvent distillation, battery-life extension systems)—may also be pursued. The results of these practices will depend on whether they have broad applicability across many organizations or are localized to one or just a few. Accordingly, USAREUR must carefully evaluate their costs and benefits before making implementation decisions.

STUDY APPROACH

This study began with the development of a comprehensive "process blueprint" or flowchart for the entire USAREUR logistics system (i.e., supply chain), from top to bottom and for items in all supply classes that are deemed hazardous. In developing the process flowchart, we emphasized tactical and non-tactical organizational relationships (support to supported), policies and business practices governing requisitions and issues, information systems flow within identified support-to-supported relationships, and the Army life-cycle management model (see Figure 1-1). The life-cycle model is rigorous and allows an enormous number of people to work together to ensure that Army systems possess the required services to function properly.

We also developed a flowchart for the existing USAREUR HW management and disposal process. Finally, we analyzed the process flowcharts to ensure that they largely reflect the truth on the ground (i.e., the system as it actually exists). (See Appendix C for a detailed discussion of the existing HM/HW process flowcharts and related management activities.)

Figure 1-1. Army Functional Life-Cycle Model



After developing the process flowcharts, we compiled a comprehensive listing of key HM/HW and P2 program management issues identified to date. We compiled this list principally by conducting interviews and reviewing existing program documentation and the findings of completed studies and analyses (see Appendix D for a summary of data collection activities). We then took each issue and "mapped" it back into the logistics system. The objective of this exercise was to identify the points within the logistics system infrastructure where the issues could or should be addressed through appropriate business process improvements. In each case, we evaluated all practical alternatives to identify the "optimal solution" for business process improvement. Initial planning guidance from ODCSLOG included the key consideration that *no additional logistics resources were to be added to the process.*

REPORT ORGANIZATION

The rest of this report is organized as follows:

- Chapter 2 contains our findings and conclusions.
- Chapter 3 details our recommendations.
- Chapter 4 describes USAREUR's recommended vision for the future for integrated HM/HW management in USAREUR.
- Chapter 5 presents a matrix-based, prioritized recommendations summary and general implementation scheme for achieving the desired end state.

The following appendixes contain detailed data and information from our research and analysis:

- Appendix A, Detailed Discussion of the Pharmacy Concept for HM Management
- Appendix B, Summary Table of USAREUR FY98 HW Disposal by ASG
- Appendix C, Description of Existing USAREUR HM/HW Management Processes
- Appendix D, Summary of Study Data Collection Activities
- Appendix E, Listing of 19 Federal Supply Classes Containing HM Items
- Appendix F, Listing of Unique HM Items Requisitioned in FY99 through SARSS
- Appendix G, Listing of Unique HM Items Stocked by SSSCs
- Appendix H, Suggested Policy Memoranda
- Appendix I, Example Authorized Use List, Authorized User List, and User Stockage List
- Appendix J, Abbreviations.

Chapter 2
Findings and Conclusions

INTRODUCTION

USAREUR organizations routinely use HMs to accomplish their missions. For the most part, HM items are required for use by weapons system specifications and standards. Once procured, HM items go through a variety of processes, including requisitioning, receipt and storage, issue and use, and, ultimately, disposal as HW. In FY98 alone, the HW disposal bill exceeded $6 million.[1]

In a perfect world, a P2 solution would be applied to reduce or eliminate the need for HM items and, hence, the resulting HW disposal requirement. Several efforts are underway to achieve that goal. For example, the Army Acquisition P2 Support Office (an Army Materiel Command organization) is working closely with the commodity commands to find less-hazardous substitutes for HM items.[2] In addition, the Joint Group on P2—primarily representatives of the DoD components, the Defense Logistics Agency (DLA), and the National Aeronautics and Space Administration—is working with private industry to find similar substitutes for industrial processes.

Although progress is being made to reach these technical solutions, it is slow and has encountered periodic setbacks. For example, the DLA "green products" catalog includes several less-hazardous alternatives to HM items. One such alternative is an aqueous solvent, which, as the name implies, is a water-based solution (rather than an organic compound) used to clean or degrease. It does a fine job of cleaning parts, but it causes extensive rusting of metal components, thereby causing operational problems with the equipment itself. Until this rusting problem is resolved, item managers and specification holders will not allow aqueous solvents to be used on weapons systems. This is a perfect example of concern for the environment getting slightly ahead of the requirement to safeguard system performance.[3]

Although technology ultimately may result in the elimination of most HM items from the supply system, that is not likely to happen in the near future. Accordingly, USAREUR must focus its efforts on the aspect of HM/HW management over which it exercises the most direct control—the internal processes and business practices used to manage HM items.

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[1] Source: Dr. Kurt T. Preston, HQ, USAREUR, ODCSENG.

[2] For the purposes of this report, the term *less hazardous* includes *nonhazardous* materials.

[3] Source: Mr. Mike Eck, P2 Branch, U.S. Army Environmental Center, Aberdeen Proving Ground, MD, October 1999.

In this context, the findings and conclusions presented in this chapter stem from current USAREUR HM/HW management business processes and practices. These processes (described in detail in Appendix C) are referred to as hazardous material sustainment (i.e., the process through which HMs are requisitioned and delivered to the customer); excess (but serviceable) HM management and disposal; and HW management and disposal. These three processes are inextricably linked because they collectively represent the complete, integrated life cycle (i.e., cradle-to-grave management) of HMs. This life cycle begins with the identification of need for the HM item; continues with requisitioning, receipt and storage, and issue and use; and terminates with disposal.

Additionally, application of the pharmacy concept and its associated business practices has been and continues to be a key area of focus within USAREUR (and the Army at large) in addressing HM/HW management program integration issues. Therefore, we arrange our findings in four general categories aligned to the basic HM/HW management processes described above, as well as to the pharmacy concept for HM/HW management. Our findings bring together salient facts we uncovered during our research, interviews, and site visits and provide our assessment of their meaning to USAREUR and, to a certain extent, the Army as a whole. Our conclusions broadly summarize these findings in terms of a few selected issue areas. Our recommendations, which we present in Chapter 3, have their basis in these findings and conclusions.

FINDINGS

Hazardous Material Sustainment

GENERAL

Requisitioning organizations within USAREUR use three distinct sources of supply to procure HM items (see Appendix C). These sources are the Standard Army Retail Supply System (SARSS), the self-service supply center (SSSC), and local purchases, which are described briefly below.

SARSS is a multilevel supply management and stock control system.[4] It is designed to operate in peacetime or wartime at every level of supply, from the direct support unit through the Theater Army Materiel Management Center (TAMMC) for the Army in the field. In general, SARSS accomplishes basic HM receipt, storage, requisition, and issue functions.

During FY99, USAREUR organizations requisitioned more than 2,600 unique HM line items through SARSS; these items were valued at more than $42 million.[5] To determine this, we analyzed a database (provided by the 200th TAMMC) of more than 72,000 requisitions filled within the 19 federal supply

[4] The Global Combat Service Support–Army (GCSS-A) will soon replace SARSS.

[5] Source: Mr. Bob Harrington, 200th TSCMMC, IMD, October 1999.

classes (FSCs) that are generally known to contain HMs (see Appendix E for a listing). Of those items, we determined that about 3,150 line items were unique. We then conducted a crosswalk of those unique line items against the hazardous material information system (HMIS), which indicated that approximately 2,684 items had been assigned hazardous material indicator codes (HMIC) identifying them as HMs (see Appendix F for complete listings of these HM items). We also determined that these HM items were requisitioned from five principal sources of supply (Table 2-1).

Table 2-1. Principal Sources of Supply for Hazardous Materials (SARSS)

Source of supply	Value of HMs requisitioned
Defense General Supply Center	$17,186,982
Communications-Electronics Command	$14,315,345
Aviation Troop Command	$ 5,305,711
General Services Administration	$ 3,589,773
Local purchases (system managed)	$ 1,649,534
Total	$42,047,345

Notes: Figures represent 98% of HM purchases in FY99 per 200th TAMMC. Figures also reflect SARSS purchases only; they do not include HM purchased through SSSC or the local economy, which collectively represent substantial quantities as well.

To purchase an item through SARSS, an organization simply submits a requisition, either in hard copy (DA Form 2765-1) or on diskette.[6] The only restrictions on requisitioning are the total number of items that can be ordered on a single requisition and the total dollar value of the requisition. An organization can easily circumvent these controls, however, by submitting multiple requisitions—which SARSS will process without question.[7]

SSSCs, established throughout the Army, provide easy access to a variety of supply items that are used routinely and regularly by most organizations (e.g., small batteries, household cleaning and other facility maintenance supplies, and tools). Under current USAREUR policy, each SSSC stocks approximately 400 core items. Each ASG is allowed to add another 200 items to support unique local requirements, provided that the unit cost of each item does not exceed $100.[8]

At the time of this study, data were not available to ascertain the total value of SSSC sales during FY99. We were able to determine, however, that of the roughly 600 line items typically stocked, approximately 134 are HMs.[9] To purchase an item at an SSSC, an organization simply needs an account with funding.

[6] DA Form 2765, Request for Issue or Turn-In, April 1976.

[7] Source: CW2 John D. Schafer, 574th Supply Support Activity, Mannheim, August 1999.

[8] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, August 1999.

[9] We determined this by using the same procedure as for SARSS (see Appendix G for a complete listing of these HM items).

An authorized individual can buy any item in stock, without restriction, as long as sufficient funds are available.

Local purchase procedures have also been established across USAREUR to provide ready access to material. To make a local purchase, organizations can establish blanket purchase agreements (BPAs) directly with local suppliers or use a credit card. As with SSSC purchases, there are essentially no restrictions or controls on items purchased locally, except that approval must be obtained when the cost of a single item exceeds $25,000. Additionally, some supply support activities (SSAs) require that they review and approve local purchase requests before the items are actually procured.[10]

As with SSSCs, data were not available to ascertain the total quantity or value of local purchases during FY99. We were able to determine, however, that most non-tactical organizations (e.g., the ASG/BSB Directorates of Public Works) tend to procure their HM items primarily through local purchase, probably in substantial quantities.

CURRENT PROCESS ISSUES

Our specific findings regarding current processes for HM sustainment are as follows:

- *HM items are managed as consumables.* As a result, there are few if any controls in place to restrict access to them. Virtually any organization can order HMs through the supply system, in any quantity, regardless of whether they have a valid requirement to use them.

- *HM requisitioning controls have not been established for SARSS, SSSC, local purchase, DRMO, or reuse facilities.* Any requisitioning organization can procure HMs through SARSS with little or no restriction by simply submitting a DA Form 2765-1. Similarly, any organization can purchase HM items through SSSCs or local suppliers as long as an account is established and funds are available. In addition, the hazardous material control center (HMCC) at the Kaiserslautern Industrial Center (KIC), the supporting DRMO, and the reuse center (currently there is only one operating reuse center, in Wuerzburg, which supports the 98th ASG) will issue serviceable excess HMs at no cost to any organization that has a need and requests it.

- *HM stock levels are based on unconstrained usage.* DoD policy requires that each item (national stock number, NSN) in the DoD inventory have a single integrated material manager (IMM). Within SARSS, organizational stocks are established on the basis of a historical record of demands (ROD) for an item. If total demand for an item exceeds a certain level over

[10] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG. August 1999.

a specified period of time, the supporting supply activity generally will increase the quantity of that item maintained in local stock. This stock increase occurs even if the requisitioning organizations that establish the ROD are procuring HM items that they do not need or ordinarily would not even be authorized to use.

- *HM is ordered by unit of issue, not unit of use.* Within SARSS, a designated item manager oversees each NSN item. HM items generally fall under the purview of the General Services Administration (GSA) or the DLA. Item managers have determined an appropriate unit of issue for each item they control. Unfortunately, in the case of many HM items (e.g., halogenated solvents), the unit of issue may be a much larger quantity than is needed to address a requirement. For example, it is not unusual for an HM item to be readily available only in a 1-, 5-, or 55-gallon drum unit of issue (e.g., some paints, solvents, greases), even though the actual need is for a much smaller unit of use (e.g., as little as a few ounces for circuit board cleaning solvents). As a result, large quantities of HMs are stored in units and are disposed of as HW.

- *Decentralized control of HM storage and issue compounds these problems.* Within USAREUR, there are 67 SSAs and 5 supply support offices (SSOs) that maintain substantial stocks of HMs.[11] In addition, supported requisitioning organizations at all levels stock large quantities of HM, much of which is unserviceable, at the local level.[12] There are no restrictions at the local level to minimize the amount of HM items in stock.

- *Cross-leveling does not include DRMO or HM reuse center (HMRC) stock.* Under current procedures, cross-leveling of requisitions occurs only when the item requested is not available at the SSA (SARSS-1) and includes only interdivisional (SARSS-2AD) stock availability.[13] This procedure overlooks serviceable excess HM that may be readily available through DRMO or the HMRC in Wuerzburg. As a result, requisitioning of new HM probably could be avoided. Yet another problem is theater excess, which usually goes to waste once an overage has been identified.

- *There is low visibility of available less-hazardous alternatives.* Requisitioning organizations generally are not aware of less-hazardous alternatives available for use. The DLA and GSA have published green product catalogs containing items that can be readily used in facility operation and maintenance (O&M) and non-weapon system applications. Although these catalogs are available at Web sites, the SSA staff generally does not have the time to search for these items.[14] Additionally, distribution of hard-copy

[11] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, November 1999.

[12] See Tables 1-1 and 1-2.

[13] Source: LTC(P) Palmer, HQ, USAREUR, Maintenance Policy, November 1999.

[14] Source: CW2 John D. Schafer, 574th Supply Support Activity, Mannheim, August 1999.

catalogs has been limited. To stay current on what is available, SSA staff will have to receive this information directly.

Excess HM Management and Disposal

GENERAL

USAREUR organizations and activities have three alternatives available for disposing of excess HM (Appendix C). The preferred mechanism is to turn in unopened, serviceable excess to the supporting SSA for return to stock (although we note that many SSAs will not take returns as required by regulation). Failing that, HM can be turned in to a HMCC or HMRC, if either is reasonably available.[15]

If those alternatives do not work, the only remaining option is to turn in the HM to the local DRMO for disposition; the DRMO, in turn, will try to reuse, transfer, donate, or sell it. If that is not possible, the HM must be disposed of as HW, with resulting disposal costs charged to the generating activity's BSB. Because generating units do not have to pay disposal costs under current policy, they have little incentive to pursue anything beyond turning in HW to the DRMO.

CURRENT PROCESS ISSUES

Our specific findings related to current processes for excess HM management and disposal are as follows:

- *The process for addressing serviceable excess HM among SSAs is inconsistent.* Per AR710-2, supporting SSAs are required to accept unopened, serviceable excess HM for return to stock.[16] Some SSAs do perform this function—even helping organizations determine whether shelf-life extensions have been granted for selected items. Our interviews and site visits indicate, however, that some SSAs will not accept HM item turn-ins or provide other related services under any circumstances. Although we could not determine specific reasons for this situation, some SSA staff members evidently do not want to perform the transaction or have additional stock on hand. Organizations that become frustrated with trying to turn in this serviceable excess eventually give up altogether, mark everything as Condition Code H (unserviceable), and turn it in to DRMO for disposal.

- *The HMRC at Wuerzburg is performing the function of an SSA.* The original intended mission of the reuse center was to allow any organization within the 98th ASG to turn in excess HM for subsequent free reissue. This excess HM was to include unopened HM with an expired shelf-life,

[15] There is only one HMCC, located at the Kaiserslautern Industrial Center, and the single HMRC is at Wuerzburg.

[16] Army Regulation 710-2, *Inventory Management Supply Policy Below the Wholesale Level, Section VII, Hazardous Materials Management Program*, 31 October 1997.

unopened but still serviceable HM, and opened partial containers of HM. In interviews with assigned staff, however, we discovered that the HMRC accepts only unopened, serviceable excess HM from non-tactical organizations. Tactical units cannot use the facility. Additionally, organizations that attempt to turn in expired or partially used HM items are told to turn them into DRMO for disposal. Thus, the HMRC essentially is performing the same functions that the SSAs are supposed to be performing by regulation. If this is the case, ensuring that every SSA performs these functions as required could eliminate the need for the HMRC altogether. When we asked why units were not turning in excess HM directly to SSAs, we were advised that "anyone who has been around the Army supply system long enough knows that you never try to turn anything back in to an SSA; it is simply not worth the trouble." Clearly, this situation requires immediate command emphasis and resources for correction.

HW Management and Disposal

General

USAREUR organizations have two principal mechanisms for HW disposal (Appendix C) that are available through a single DRMS-I contract. The first is direct removal of recurring HW from accumulation/storage sites; the other is turning in other HW directly to the local DRMO for disposal or other final disposition (e.g., recycling, reuse, off-site sale). Although the current HW disposal system is complex, it works relatively well, especially given the wide geographical dispersion of supported organizations.

Current Process Issues

Our specific findings related to current processes for HW management and disposal are as follows:

- *Execution of DRMS-managed disposal contracts is sometimes lacking.* Interviews with the environmental staff in the field revealed that, in some instances, DRMS-I/DRMO oversight and contractor performance of HW disposal services has been less than expected. For example, a contract stipulates that a supported unit should call for HW pickup when storage containers are full. When the unit calls the designated number to arrange for pickup, however, no one answers the phone. In another instance, a contract specifies that supported units can transport HW to a predetermined collection point during certain times of the day on selected days of the week. A supported unit transports HW to the designated facility at the scheduled day and time, only to find that the facility is closed and that no one is manning it.[17]

[17] Source: Ms. Lisa Smith, Chief, Environmental Office, 26th ASG, DPW, August 1999.

- *HW generation cannot be tracked to the unit level.* From a P2 perspective, environmental managers must be able to identify specific units that are generating the HW. This allows them to determine the HM being used that ultimately result in HW generation; it also facilitates identification of specific processes generating the waste. Once this has been done, it is easier to make process changes or identify less hazardous substitutes for the HM items. Currently, the DRMS-Is Rapid Access Information DLA (RAID) Hazardous System only tracks HW disposal to the BSB level. However, a newly fielded system called the HW Obligation Tracking System (HOTS) could be used to provide the required level of waste generation tracking. Unfortunately, because there is no policy mandating its application, it is in use at only about half of the BSBs.[18]

- *HW disposal costs are not linked to generators.* Because HW disposal is funded centrally at the BSB level, generating organizations at the unit level lose visibility of their direct contribution to the total waste disposal bill. When generators do not see the bill or have to pay it directly from operational accounts, they have little incentive to try to reduce HM use and resulting waste generation. USAREUR Regulation (UR) 200-1 requires that HW disposal quantities and related costs be reported to generating units on a quarterly basis;[19] this requirement is not being fulfilled, however.

- *Some HM items do not have an available waste disposal mechanism.* Under AR710-2 supply management procedures, item managers are required to complete a comprehensive supply chain analysis for every NSN item they manage.[20] Among other things, this procedure ensures that each item can be fully controlled throughout its life cycle—including disposal as a waste. In at least one instance (compressed gas cylinders), we discovered that the requisite supply chain analysis has not been carried out.

  The primary problem with compressed gas cylinders is that many have been procured through SARSS, which results in U.S. specification cylinders being used throughout Europe. Once the cylinders are empty, refilling them often is difficult because the fittings are not compatible with European systems. As a result, large numbers of empty, unusable cylinders begin to pile up at storage sites across the command. At one point, the HMRC had stockpiled 2,000 empty cylinders.[21]

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[18] Ibid.

[19] USAREUR Regulation 200-1, *USAREUR Environmental Quality Program,* Unit 29351, APO AE 09014, 9 December 1993.

[20] Army Regulation 710-2, *Logistics, Inventory Management Supply Policy Below the Wholesale Level*, 31 October 1997.

[21] Source: HMRC Staff Interviews, August and November 1999.

Attempts to retrograde these cylinders to the continental United States (CONUS) for disposal failed because stateside DRMOs would not accept them. Additional attempts to dispose of them through local DRMOs also failed because there is no market for them in Europe. As a last resort, the HMRC had to pay a German contractor DM 780,000 (more than $400,000 at recent exchange rates) to pick up and dispose of the cylinders. Ironically, an organization that is supposed to save money by reusing HM ended up having to spend a large sum to dispose of it.

The most logical solution to this problem is to stop ordering U.S. cylinders and to procure them exclusively from the local economy. Many units have already done so, which enables them to simply exchange empty cylinders for full ones as needed. The 701st Maintenance Battalion, 1st Infantry Division (Kitzingen) had such an exchange program established under contract. During our site visit, however, we were advised that the General Support Office cancelled the local contract when it learned of the availability of U.S. specification cylinders as a free issue through SARSS. As a result, the SSA collocated with the 701st already had received several calls from units wanting to know what they should do with their empty U.S. specification cylinders.[22]

Centralized Hazardous Material Management

GENERAL

The term *pharmacy* or *HM pharmacy* represents an approach to HM/HW management that parallels drug dispensing pharmacy operations in the medical community. The HM/HW pharmacy establishes centralized management under which HMs are issued to authorized users only when they need them and in the correct quantities required for the intended application. As a result, the pharmacy effectively manages the HMs used on the installation, the quantities used or issued, the persons and activities authorized to use them, and the shelf storage period for them.[23] The Army has experienced cost savings and improved customer service through the implementation of pharmacies at many CONUS installations and several installations outside the continental United States (OCONUS).[24] (Appendix A contains a description of the "traditional" pharmacy concept for HM/HW management.)

[22] Source: 1LT Stacy Halgus, 701st Maintenance Battalion, Kitzingen, November 1999.

[23] U.S. Army Concepts Analysis Agency, *Assessment of Logistics and Cost for Hazardous Materials Management Implementation (ALCHMMI) Study*, page 1-1, October 1996.

[24] Although some OCONUS pharmacies have been established with equal success, Army emphasis to date has been at CONUS installations.

USAREUR has completed some studies[25] and planning for centralized HM management in conjunction with Army fielding of the HSMS. The HSMS is an automated information management system that provides cradle-to-grave tracking and management of HM. It is designed for use in conjunction with improved business practices to facilitate implementation of the pharmacy concept.

As a result of these studies, an HMCC was established at the KIC during 1997. The principal purpose of the HMCC is to consolidate responsibility for the acquisition, storage, distribution, use, and management of HMs within the KIC. Ultimately, the goal is to expand coverage of the HMCC to provide service to the majority of the 415th BSB. The intent was to reduce HM consumption, improve environmental compliance, reduce HW disposal cost, and integrate theater excess/turn backs.

The 26th ASG intends to establish a similar HMCC to support the various units and organizations within the 293rd BSB at Mannheim and the 411th BSB at Heidelberg. It is also beginning field tests to implement HSMS and related business practices at the Hohenfels and Grafenwöhr major training areas. Studies have recommended that HMCCs eventually be established at all 18 BSBs.[26]

Although USAREUR's experience to date with the KIC HMCC has been positive,[27] there are concerns about the eventual cost in terms of personnel and other resources required for full implementation across the command. For example, the feasibility study for HMCC implementation at Mannheim projects that six full-time equivalents (FTEs), in conjunction with the existing staff, would be needed to operate the pharmacy.[28] On average, requirements for three additional FTEs have been projected to support each of the 18 pharmacies that were recommended for future implementation.[29] Of course, this analysis assumes that a single HMCC can provide the requisite degree of control to manage HM effectively down to the unit level across an entire BSB. Given the wide geographical dispersion of units in some areas, even more HMCCs eventually might be required.

IMPLEMENTATION ALTERNATIVES CONSIDERED

Clearly, implementation of the pharmacy concept and its associated business practices is a key component of the solution to the HM/HW management program integration issue. The question is the degree to which this type of solution can be applied in USAREUR in an efficient and cost-effective manner over the long term.

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[25] These studies were completed by the 26th and 98th ASGs.

[26] USAREUR Pollution Prevention Plan, page 6-2, July 1998.

[27] Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials*, Kaiserslautern, Germany, February 1996.

[28] Science Applications International Corporation, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd BSB, Mannheim, Germany, Feasibility/Cost Benefit Analysis*, page 10, April 1997.

[29] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, August 1999.

The traditional pharmacy approach has met with great success at a number of depots and installations (e.g., Corpus Christi AD, Ft. Hood, Ft. Knox, Ft. Campbell). Significant cost savings (e.g., $2.3 million in FY95 at Corpus Christi) have been identified through reductions in HM purchases, HW disposal, HM storage and training requirements, HM-related disability claims, and HM loss/waste resulting from expired shelf-life items.[30] Similarly, compliance savings have been realized through reduced regulatory citations, associated fines and penalties, and spills and cleanups.

For the most part, these savings have been achieved through implementation of the following key business practices:[31]

- Establish authorized use lists (AULs) and authorized user lists
- Order HM by unit of use rather than unit of issue
- Establish HM reuse procedures
- Establish HM user stockage lists (USLs)
- Establish a centralized HM management cell
- Establish centralized issue and storage points
- Implement an HM tracking system
- Implement an HM training and awareness program.

In evaluating the success of traditional HM pharmacies in CONUS, it is important to note that the installations involved are effectively "captive audiences." In other words, having the supported organizations located within a relatively constrained geographical area (i.e., the installation boundary) makes implementing and enforcing the desired business practices much easier. This situation contrasts with the wide geographical dispersion of supported units and organizations typically found in USAREUR.

Additionally, pharmacy implementation can be very resource intensive, especially when new facilities must be constructed, or if decanting activities are desired.[32]

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[30] Source: Mr. Daryl W. Brandt, Safety, Occupational Health and Environmental Division, Corpus Christi AD, TX.

[31] U.S. Army Concepts Analysis Agency, *Assessment of Logistics and Cost for Hazardous Materials Management Implementation (ALCHMMI) Study*, pages 2-3 – 2-6, October 1996.

[32] Decanting is not required; it is an option that would have to be weighed on the basis of available manpower.

Another important consideration is that pharmacies typically operate independently of the existing supply system. In the ideal scenario, HMs would be managed throughout their entire life cycle under a single, integrated system—which logically would be the supply system itself. A final consideration is that pharmacy implementation generally is a long-term project, with supported units and organizations brought under control gradually. Customers are brought in gradually because they have about a one-year stock of HM on hand that must be brought in to the supporting pharmacy, segregated, shelf life extended, and researched for an applicable material safety data sheet (MSDS).

We also considered a variation of the traditional pharmacy concept: the DLA initiative known as the Joint Environmental Material Management System (JEMMS). JEMMS essentially is a prototype for the integrated management of DoD hazardous materials across all components. JEMMS is designed to be contractor-operated; ultimately, it will provide an expanded HM pharmacy program to participating military activities within a designated geographical region. Under this concept, each JEMMS regional center would receive and stock incoming HMs from multiple suppliers. After processing, HMs would be delivered by scheduled "milk runs" to supported installations. Concurrently, HW would be picked up and returned for central disposal, using regional waste management firms.[33]

The JEMMS initiative is particularly interesting because it would essentially consolidate the HM/HW management function under the DLA. This approach is very logical because the DLA already performs broad material supply and disposal functions as a routine part of its mission. The only major drawback to JEMMS at this point is timing. Although JEMMS will undergo proof-of-concept testing with the Air Force in Okinawa over the next 2 years, it is unclear how long it would take before it could be in place and operating on the ground in theater. The USAREUR should act now to address the key issues and concerns that have been identified.

For these reasons, USAREUR should take a conservative approach to pharmacy implementation. This approach includes taking steps to integrate proven pharmacy business practices within the existing supply system (and supporting facilities) to the maximum extent practicable, while continuing to evaluate ongoing traditional pharmacy implementation initiatives in consideration of business practice integration results.

[33] Defense Reutilization and Marketing Service International briefing to DoD Environmental Safety Occupational Health Policy Board, *Joint Environmental Material Management System (JEMMS)*, Dannette M. Taylor, November 1999.

CONCLUSIONS

After careful evaluation of past studies, historical data, and information gathered during site visits and staff interviews, we conclude the following:

- Current HM/HW management processes do not optimize minimization of HM use and HW generation and will sustain or increase current levels of cost.
- Increased requisitioning and stockage controls within the existing supply system are key to addressing most issues.
- Desired improvements can be achieved (more efficiently and cost-effectively) over the near term by integrating traditional pharmacy business practices in the existing supply system (i.e., SARSS or GCSS-A).

Chapter 3
Recommendations

INTRODUCTION

In Chapter 1, we discuss the need to integrate HM and HW management functions across USAREUR, using the existing logistics system as the principal vehicle for change. Chapter 2 presents findings and conclusions that resulted from our identification and analysis of current USAREUR HM/HW management business processes and the traditional pharmacy approach to HM management.

The results of this study will form the basis for major operational changes within the USAREUR hazardous material logistics and hazardous waste management systems. The ultimate objective is to assist USAREUR in developing and institutionalizing a completely "seamless" system that fully integrates HM, HW, and associated P2 programs across all functional areas and levels of command. In consideration of this baseline objective, we recommend ways to address the key issues associated with HM/HW/P2 program management integration—not only from a functional perspective but also within the larger context of the operational environment in which they would be implemented.

Our recommendations fall into four principal categories: hazardous material management, hazardous waste management, pollution prevention, and pharmacy implementation.

RECOMMENDATIONS

Hazardous Material Management

SARSS

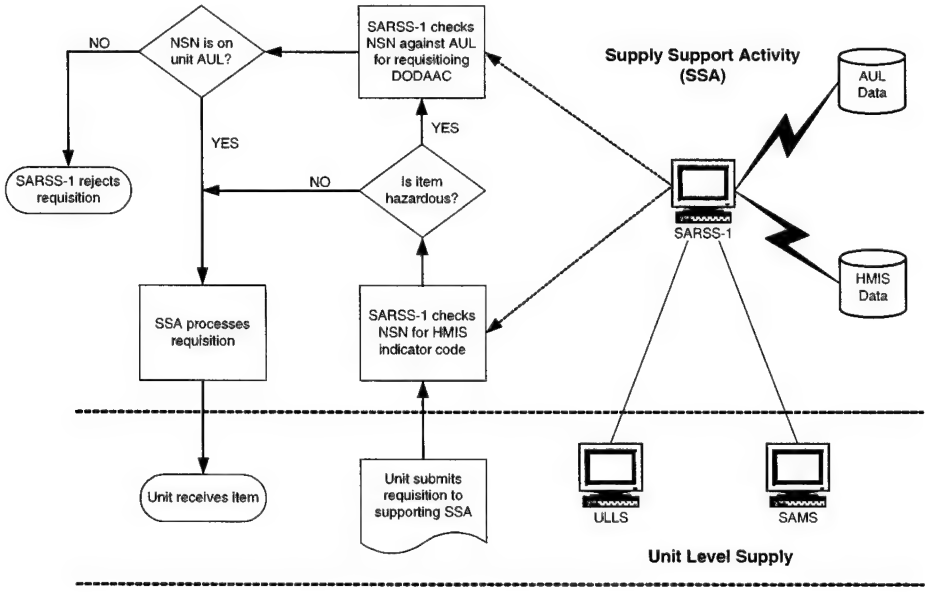
Integrate the eight principal pharmacy business practices within the existing supply system (SARSS or GCSS-A) as follows:

- *Establish authorized use lists and authorized user lists.* The primary purposes for establishing these lists are to increase command emphasis on HMs by restricting access (i.e., identifying who can order, receive, and use HMs) and to heighten general personnel awareness of HMs.
  - *Authorized use list*—Specifies HM items that an organization can order. We recommend establishment of a theater-wide policy that requires development of an AUL for each requisitioning organization

(see Appendix H for a suggested policy memorandum). The list identifies specific HM items by NSN that are authorized for use by the requisitioning organization. Unit commanders—working in close coordination with their supporting environment, safety, and occupational health (ESOH) staff—compile each list. A designated individual (at the appropriate level in the chain of command) reviews, validates, and approves the list.

Once approved, each list is input into SARSS or GCSS-A (probably as a table) against the unit's unique Department of Defense Activity Account Code (DODAAC).[1] Then, each time a unit submits a requisition for a consumable item, SARSS-1 automatically checks the HMIC. If the item is determined to be hazardous, the system flags the item and screens it against the approved AUL. If the item is not on the AUL for the requisitioning organization, SARSS-1 rejects the requisition. If it is on the AUL, the requisition is processed normally. The lists are updated periodically, perhaps annually (see Appendix I for a sample AUL). The general requisitioning process is depicted in Figure 3-1.

Figure 3-1. Proposed Requisitioning Process from Unit to Supporting SSA



[1] This procedure would require a programming change in SARSS; there was a moratorium on all such changes until March 2000. Nevertheless, the product managers for SARSS (Andy Kellerman) and GCSS-A (LTC Chastine) confirm that this change could be readily incorporated into either system. If this change cannot be accomplished, the proposed AUL solution would not be realistically achievable because the SSAs would be required to manually track the AULs.

- ➤ *Authorized user list*—Identifies specific personnel who can use HMs. We recommend establishment of a theater-wide policy that requires development of an authorized user list for each requisitioning organization (see Appendix H for a suggested policy memorandum). As with the AUL, unit commanders, working in close coordination with their supporting ESOH staff, compile each list, but no higher review or approval is required. Unit commanders are required to monitor local HM storage and issue procedures to ensure that only authorized personnel with a valid need, current training, and required personal protective equipment (PPE) are permitted to receive and use HMs. The authorized user lists are reviewed and updated quarterly, or more frequently if required because of personnel turnover. (See Appendix I for an example authorized user list.)

◆ *Establish HM user stockage lists.* The primary purposes for establishing USLs are to identify HM requirements at the user level for a given period of time, reduce unit HM stockage levels, and promote better shelf-life management.

- ➤ Establish a theater-wide policy that requires development of a USL for each requisitioning organization (see Appendix H for a suggested policy memorandum). The USL identifies each HM authorized for use by NSN, description, and minimum and maximum stockage levels. As a general guideline in consideration of current order-and-ship times, units should never stock more than a 60-day supply of any HM item.[2] (See Appendix I for a sample USL.)

- ➤ Unit commanders are the focal point for USL development, which is based on approved AULs, assigned facilities, equipment and weapons systems, and known mission requirements.

- ➤ After development of USLs, units conduct a 100 percent inventory of all HMs. All serviceable HM excess to the USL is turned in to the supporting SSA for return to stock. All unserviceable HM is disposed of as HW.

- ➤ Supporting SSAs adjust HM stockage based on a review of unit USLs and projected use.

- ➤ Unit commanders are required to monitor and enforce USL restrictions.

◆ *Order HMs by unit of use rather than unit of issue.* The primary purposes of this recommendation are to minimize stockage levels and shelf-life expirations, reduce HM consumption and waste, and minimize spills and

[2] Draft USAREUR Regulation 710-2, *Supply Policy Below the Wholesale Level, Chapter 5, Hazardous Materials*, undated.

personnel exposure. The DLA and GSA are the item managers for most HMs, and they perform this management function within the national supply system in support of all DoD components. As a result, this recommendation has broader implications for the entire Army and cannot be addressed effectively by USAREUR alone. Accordingly, implementation should occur at the HQDA level to ensure full coordination and concurrence among all potentially affected parties.

- ➤ Request that HQDA sponsor an integrated process team (IPT) to determine the most appropriate HM units of use (Army-wide).

- ➤ HQDA IPT determines appropriate units of use in coordination with selected unit commanders, supporting ESOH staff, HM users, and others as appropriate.

- ➤ HQDA provides unit of use data to the DLA, GSA, and other integrated material managers (IMMs); the DLA, GSA, and IMMs work to provide unit of use stock.

- ➤ SSAs order and issue HMs in appropriate unit-of-use quantities.

- ◆ As a result of this action, units of issue would in effect become units of use. This procedure will require the addition of new NSNs to the Army Master Data File (AMDF), however, to offer customers a wider range of unit of issue/use quantities. This change is necessary because the optimum unit of issue/use for some HM items (e.g., quart, gallon, 5-gallon, 55-gallon) will depend on the specific application.

- ◆ *Establish HM reuse procedures.* The primary purposes of this are to provide for the turn-in of unopened/unused or partially used HMs, allow units with valid need to use HMs at no or low cost, and reduce procurement costs and the amount of HM requiring disposal as HW.

  - ➤ Require SSAs to accept all unopened, unused excess serviceable HM for turn-in and return to stock, as required by AR710-2.[3] Additionally, require SSAs to assist supported units in determining if shelf-life extensions have been granted for expired HM items (per DoD 4140.27-M).[4] (See Appendix H for suggested policy memorandum.)

  - ➤ Validate the need for and cost-effectiveness of the Wuerzburg HMRC. If appropriate, consider expanding its coverage to include other ASGs, or establish additional HMRCs (only if economically justified and if desired functions cannot be performed by SSAs).

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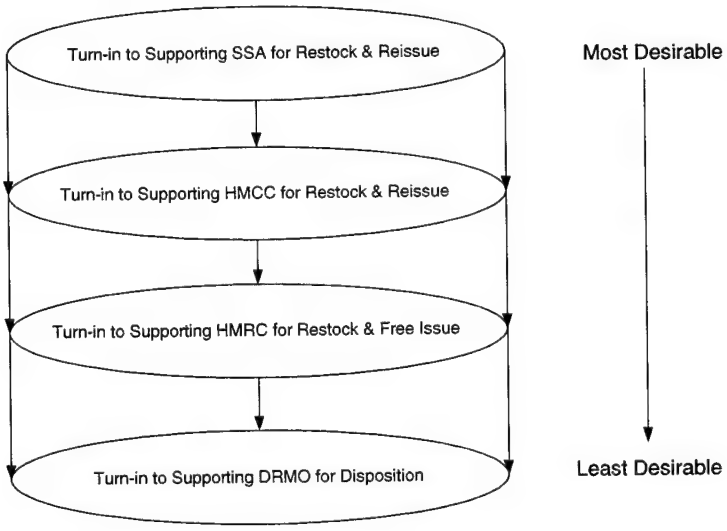
[3] Army Regulation 710-2, *Inventory Management Supply Policy Below the Wholesale Level, Section VII, Hazardous Materials Management Program*, 31 October 1997.

[4] Defense Logistics Agency, DoD 4140.27-M, *Shelf-Life Item Management Manual*, 26 September 1997.

- Provide visibility for serviceable excess HM items. As the preferred method for achieving this goal, we recommend placing SARSS-1 boxes at each DRMO, the Wuerzburg HMRC, and the KIC HMCC. This would enable supporting SSAs to automatically screen for excess serviceable HM at these facilities during cross-leveling. This goal also could be achieved by establishing an interface between the SARSS and DRMO/HMRC/HMCC databases, though that approach would not be as efficient. Additionally, USAREUR could establish an Internet Web site application for posting the availability of HM items at those facilities. Our interviews with the SSA staff indicated, however, that they do not have time to spend (some do not even have access) searching the Web for available material.

  Units should turn in excess serviceable HM to the supporting SSA as the preferred alternative. Other disposal options should be pursued only when turn-in to the SSA is not feasible, in the decreasing order of preference illustrated in Figure 3-2.

Figure 3-2. Hierarchy for Turn-In of Excess Serviceable HM



- *Establish centralized HM management cells.* The primary purposes of an HM management cell are to order and track HM for customers, redistribute excess HM, ensure that HM is ordered only by authorized users, and identify less-hazardous substitutes for HM items. Although HM management cells typically are established (under the traditional pharmacy approach) as separate entities at the installation level, we do not recommend adopting this practice at this time. Instead, we recommend that USAREUR take the following steps to achieve the same net results:

  - Use the existing supply system, incorporating AULs and USLs as described above.

- ➤ Ensure the visibility of DRMO/HMRC/HMCC serviceable HM excess during cross-leveling activities (as described above).

- ➤ Require that theater item managers at all levels monitor the status of approved less-hazardous alternatives to HM items, substitute accordingly when processing materiel release orders, and provide periodic updates on the availability of approved alternatives to the SSA staff to facilitate requisitioning in lieu of HM items.

- ◆ *Establish centralized issue/storage points.* The primary purposes for this are to receive, process, and issue all HM; maintain HM inventory needed to service customers; and ensure effective management of HM shelf-life. Under the traditional pharmacy approach, HMCCs (similar to the one currently operating at KIC) typically are established as separate entities at the installation level to accomplish these functions. Because of resource constraints and the wide geographical dispersion of units (which could require the establishment of large numbers of HMCCs), however, we do not recommend adopting this practice at this time. In lieu of establishing multiple HMCCs, we recommend that USAREUR take the following steps to achieve the same net results:

  - ➤ Apply AULs, USLs, and other HM item controls as previously described to requisitioning, storage, and issue processes.

  - ➤ Continue to use the Theater Distribution Center (TDC) to process HMs for distribution to SSAs, pursuant to current operating procedures.

  - ➤ Continue to use SSAs as central HM issue/storage points and to manage shelf-life issues.

  - ➤ Evaluate the feasibility of having the DLA withdraw and centrally manage CL III package items from unit basic loads (UBLs), or consider relocating UBL HM items to SSAs for central management.

- ◆ *Implement an HM tracking system.* The primary purposes for this are to track HM items from the time of order/receipt until the time of issue/use or disposal as HW (i.e., cradle-to-grave, in accordance with AR 200-1), enhance HM shelf-life management, and facilitate regulatory reporting (e.g., the toxic release inventory, TRI). Regulatory reporting requirements such as the TRI do not currently apply to USAREUR, however.[5] Accordingly, we recommend that USAREUR take the following steps:

  - ➤ Place positive controls on HM items, levels, and users as described previously.

[5] Reporting of hazardous substances within USAREUR eventually will have to be done in accordance with German law, although the extent of required reporting is not known.

- ➤ Use existing SARSS capability to track HMs from order/receipt to issue. (SARSS cannot track from issue through disposal, nor can it provide visibility of unit stock levels.)

- ➤ Validate the need for integrated HW disposal tracking or unit HM stock visibility. If this capability is required,[6] request that this functionality be added to SARSS or GCSS-A; in lieu of that, field HSMS or an equivalent system to the SSAs to provide the requisite tracking capability.

◆ *Implement an HM training and awareness program.* The primary purposes for this recommendation are to comply with regulatory mandated requirements (e.g., alternative dispute resolution, Occupational Safety and Health Administration [OSHA], Department of Transportation, host nation); increase individual awareness of personal responsibility for HM management; and reduce personnel exposure, accidents, spills, and resulting liability. Training, leader awareness, and oversight are keys to the effectiveness of the USAREUR program. By very nature, HMs and their ramifications are not fully understood.

- ➤ Expand the existing formal theater HM training and awareness program as a command critical priority. Ideally, this goal would be accomplished by developing and fielding a comprehensive standard operating procedure (SOP) for HM training.

- ➤ Assign roles and responsibilities.

- ➤ Identify personnel at all organizational levels and in all functional areas who require training. The training requirements determination process should be "activity based," as opposed to relying solely on job titles or position descriptions. The latter two options do not always reflect the true probability that an individual will interact with HM items in the course of his or her daily activities.

- ➤ Determine specific training to be received. Much of this training will be mandated by regulation or host nation requirements.

- ➤ Identify sources of required training and associated schedules.

- ➤ Ensure that personnel attend training as required and that training received is documented and kept up to date.

[6] AR 200-1 requires cradle-to grave-tracking, but this approach may not be best for USAREUR because of its unique geographical situation and limited resources.

SSSC

Increase overall management and visibility of HM items stocked at SSSCs by instituting the following procedures:

- *Conduct semiannual reviews of HM items.* Under current procedures, a panel completes a semiannual review of SSSC item stock lists to determine whether there should be any additions or deletions.[7] We recommend that this panel first receive training on the need to reduce or eliminate HM items from use. After receiving training, the panel should be charged with carefully scrutinizing each HM item on the stock list for possible deletion or substitution with a less-hazardous item.

- *Maximize use of green product catalog items.* In conducting the foregoing review, the panel should endeavor to identify acceptable alternatives from the DLA and GSA green product catalogs. Both catalogs are available in hard copy and on the World Wide Web.

The DCSLOG staff advised us during interviews that an initiative is underway to eventually eliminate all Army-managed SSSC stores in USAREUR by utilizing Army and Air Force Exchange Service (AAFES) contracted services.[8] Although such an arrangement would eliminate SSSCs, it would not eliminate the related HM item stock issue. It would merely shift ultimate responsibility for it from USAREUR to AAFES. Therefore we recommend that any agreement to provide AAFES contracted services include the requirement to reduce HM item stock as described above.

We considered another alternative to address the SSSC issue: simply removing all HM items from stock and requiring units to procure them from their supporting SSAs. We do not recommend this alternative, however, because it would defeat the primary purpose of the SSSC—which is to enable units to readily obtain certain supply items that are needed daily by virtually every organization. Additionally, the types of HM items normally stocked in SSSCs (e.g., cleaning supplies, floor wax, aerosol air freshener, detergents) are not considered hazardous enough to warrant that degree of additional control.

LOCAL PURCHASE

Increase overall management and visibility of HM items procured through local purchase by instituting the following procedures:

- Establish a policy requiring that all local purchases of HM items be reviewed and approved by unit materiel managers (see Appendix H for a suggested policy memorandum).

[7] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, August 1999.

[8] Source: Ms. Model Plummer, HQ, USAREUR, ODCSLOG, November 1999.

- ➤ Unit materiel managers already are required to review local purchase requests. They do not necessarily focus on HM items, however. In this instance, they are specifically charged with cross-checking all HM items on the local purchase request against the approved AUL to ensure that the requisitioning organization is authorized to use the HM items.

- ➤ Unit materiel managers should require the purchaser to certify that quantities to be purchased will not result in the unit exceeding the USL.

- ➤ Unit materiel managers should require that green product catalogs be screened to help identify potential less-hazardous substitutes that might be available from local suppliers.

- ➤ Commanders should be required to monitor and enforce these restrictions.

◆ *Evaluate options for additional controls on credit card purchases.* Credit cards and banks under contract to provide them offer mechanisms for increasing direct control over credit card purchases as follows:[9]

- ➤ *Refine merchant category codes.* These codes are embedded in the magnetic strip on the back of the card and can be set so that the credit card can be used only at specified stores.

- ➤ *Track and review local purchase transaction histories.* Most bank card databases offer three levels of transaction tracking. *Level 1* is similar to what a private cardholder receives in a monthly statement (e.g., purchase date, posting date, reference number, vendor name, and dollar amount). *Level 2* provides enhanced point-of-sale data, including purchase order number and sales tax breakouts. *Level 3* provides the greatest detail: essentially a complete line-item description of each item purchased, the total quantity, and the total dollar amount.

  Level 3 data are the most desirable; their collection, however, requires the merchant to have a computer to interface with the database. That could be expensive, and many merchants likely would not want to participate. A possible motivation, however, is to institute a policy that offers preferred source of supply status to merchants who are willing to provide Level 3 data capture capability.

- ➤ If obtainable, periodically review Level 3 data to ensure that purchasers are complying with AUL restrictions.

[9] Source: Mr. Shawn Allen, Logistics Management Institute, October 1999.

Another alternative we considered was to simply prohibit local purchases of HM items falling within the 19 targeted FSCs unless local purchase is the authorized acquisition method. Otherwise, requisitioning would be required through the supporting SSA. As with SSSC purchases, we discounted this option because it does not support the primary purpose of the local purchase option, which is to provide more expedient access to required supply items.

OTHER RECOMMENDATIONS

We recommend the following other measures for HM management:

- *Request that HQDA, GSA, DLA, and HQ, Army Materiel Command (AMC), complete a review of the methodology used to assign HMICs and validate all codes in HMIS for NSN items in the 19 targeted FSCs.*[10] Our review of the codes assigned to the 2,684 HM items requisitioned by USAREUR indicated that no HM data are available in HMIS for several items that probably are in fact hazardous. Therefore, it is not clear that HMIS can be used to reliably identify all HM items.

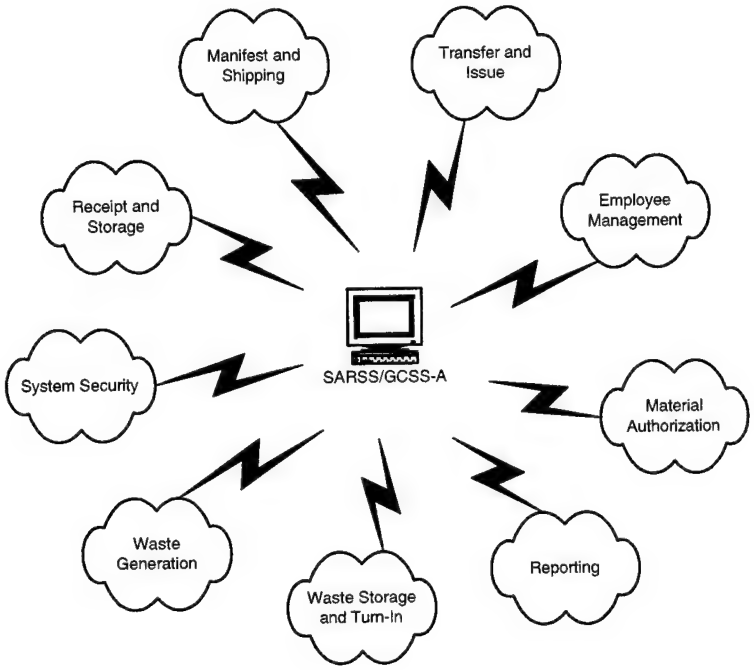
- *Include implementation of the improved HM management business practices on future command and annual general inspections.* Successful implementation of the improved business practices as described clearly requires that HM management become more of a commander's program. The best way to ensure this level of attention is to enhance visibility through increased emphasis during these inspections.

- *Develop a joint DCSENG/DCSLOG regulation integrating all aspects of HM/HW program management and related P2 activities.* This action will increase the visibility of all aspects of the program for all parties directly involved in day-to-day management. We recommend that the recently formed USAREUR Hazardous Material Management Program Control Group prepare this regulation.

- *Request that HQDA evaluate the feasibility of incorporating automated HM life-cycle management and tracking functional requirements in SARSS or GCSS-A.* This step would facilitate life-cycle management of HM/HW—from acquisition through disposal—as a totally integrated program, ideally under DCSLOG lead. It also would eliminate the requirement for a separate information management system (e.g., HSMS, HMMS). (See Appendix A for a listing of system functional requirements, which are currently provided separately by HSMS.) These functional capabilities fall into the nine broad categories depicted in Figure 3-3.

[10] HMIS is undergoing redesign; therefore, this information should be provided to the HMIS development team.

Figure 3-3. General HM Tracking System Functional Capability Categories



Hazardous Waste Management

As we note in Chapter 2, the current overall process for HW management is generally sound from a conceptual standpoint. However, it is not being executed as efficiently as possible. Additionally, inability to track HW disposal to the generator level hampers efforts to reduce HM use and resulting HW generation. To rectify this situation, we recommend that USAREUR take the following steps:

- *Work closely with DRMS-I to improve scheduling and execution of the contracted HW disposal function.* This goal could be achieved by incorporating appropriate clauses in contracts to provide incentives (e.g., bonuses) for performance that exceeds expected standards or disincentives (e.g., payment withholding, loss of contract) for performance that does not meet them.

- *Track HW disposal to the generator level.*

  - Establish an initial capability to track HW disposal by requiring all BSBs to use the recently modified HOTS software package.

  - Request that the DLA (as HW disposal agent) enhance the capability of the current RAID system to provide the desired tracking capability (RAID currently tracks only to the BSB level).

  - Evaluate the feasibility of adding this tracking capability to SARSS or GCSS-A.

- *Increase the visibility of HW disposal to commanders.* This goal can best be accomplished by increasing command emphasis and providing incentives (positive and negative) to reduce HM use and HW generation. Alternative approaches should include the following:
  - ➤ Assign unit HM/HW reduction goals that support the USAREUR P2 strategic plan.
  - ➤ Report and review unit HW disposal quantities and costs quarterly.
  - ➤ Consider requiring HW generators to pay disposal costs from their internal operating budgets rather than centrally funding disposal from the environmental compliance account.
- *Ensure that a disposal mechanism (i.e., waste stream) exists for all HM items in theater.*
  - ➤ Institutionalize supply chain analyses for all HM in use.
  - ➤ Resolve issues for problem items (e.g., compressed gas cylinders) by identifying appropriate disposal vehicles, procuring local substitutes to eliminate the disposal problem, or removing these items from stock.

Pollution Prevention

Pollution prevention involves instilling an environmental ethic that will change behaviors across USAREUR to help avoid future compliance and clean-up problems resulting from mismanagement of HM/HW. The ultimate objective of P2 is to eliminate pollution to the greatest extent possible in order to lower ultimate compliance costs, which includes reducing HM usage and HW generation and disposal. All phases of the material management life cycle are included, from cradle to grave.

Generally, P2 is achieved in a hierarchical process, starting with source reduction. The amount of HW generated is reduced by changing process inputs, seeking less-hazardous substitutes for HM, increasing efficiency by recycling or reusing HMs and byproducts, and treating HW prior to disposal to ensure that it does not cause further environmental damage. To help achieve overall P2 program objectives, we recommend that USAREUR take the following steps:

- *Exploit the HW disposal tracking capability of HOTS.* Use HW disposal data captured in HOTS to enable managers to
  - ➤ identify principal HW generators, HM consumers, and specific processes in use that generate HW;

- ➤ target those processes for HM substitution or modification to eliminate or reduce HM requirements and integrate results in P2 opportunity assessments and plans; and

- ➤ pursue systemic solutions when feasible (e.g., implement antifreeze distillation and recycling across the command to the greatest extent practical rather than at just a few installations).

- ◆ *Continue efforts to complete PPOAs and develop P2 plans for all BSBs.* Once completed, PPOAs and P2 plans should be reviewed and updated at least annually. Additionally, high-payback P2 initiatives identified by one BSB should be carefully evaluated for potential application across the command.

- ◆ *Require that all requesting organizations and activities maximize the use of DLA and GSA green product catalog items for non-weapons system and facility O&M applications as appropriate. (See Appendix H for suggested policy memorandum.)*

  - ➤ Use existing high volatile organic compound (VOC) paint product stocks until exhausted; purchase paint products only from green product catalogs in the future. (Paint is one of the largest waste stream components in USAREUR.)[11]

  - ➤ Substitute green products for SSSC and local purchase HM items, where feasible and appropriate for intended applications.

  - ➤ Ensure that requisitioning organizations have access to current catalogs.

  Although the green products available through these catalogs are generally preferable to their HM alternatives, in some instances they can cause other problems (e.g., rusting of metal parts by aqueous solvents). Careful review of the specifications for these products in relation to the intended application is important to minimize the potential consequences of incompatible use.

- ◆ *Apply pressure at the HQDA level to expedite efforts to develop substitutes for HM items.*

  - ➤ Identify USAREUR high-priority HM items for substitution.

  - ➤ Request that HM items be removed from the AMDF once approved substitutes are available.

[11] USAREUR Pollution Prevention Plan, Table 4-1, July 1998.

Pharmacy Implementation

The traditional pharmacy concept is based on the use of a centralized HM/HW management activity to minimize HM use/HW disposal and associated costs by consolidating procurement, inventory management, issue, and disposal of HM/HW at a centralized materiel management activity (e.g., HMCC).

A major premise of this study is that the results achievable through the traditional pharmacy approach also can be realized by integrating proven pharmacy business practices within the existing supply system. The ultimate objective is to obtain the same net benefits of improved program management without necessarily having to expend resources to implement the more traditional alternative across such a large geographical area. Because this approach has not yet proven to be effective in practice, however, continued evaluation of the traditional pharmacy approach through the pilot projects that are already underway would be prudent. Therefore, we recommend that USAREUR undertake the following actions:

- *Carefully evaluate the effects of improved business practice integration on resolving HM/HW management issues.* USAREUR should identify appropriate evaluation metrics—such as HM procurement cost reduction, HM inventory/storage cost reduction or avoidance, and HW disposal cost reduction or avoidance—then establish a baseline for comparing the relative results achieved from the traditional pharmacy alternative under evaluation.

- *Similarly, evaluate the net costs and benefits of the ongoing pharmacy pilot projects at KIC, Hohenfels, Grafenwhör, and the 574th SSA.*

- *Assess the net benefit of traditional pharmacy operations in light of the results achieved from business practice integration.* After completing this assessment, USAREUR may conclude that business practice integration cannot adequately resolve the HM/HW management issues and that the traditional pharmacy approach is the only realistic solution remaining. If that is the case, reducing pharmacy implementation costs may be possible by adopting a regional approach, whereby one HMCC serves an expanded geographical area (e.g., one per ASG). In consideration of this possibility (if ultimately deemed appropriate), we recommend that USAREUR take the following steps:

  - *Consider expanding the current KIC HMCC operation as a "proof of concept" for implementing a regional pharmacy approach.* The HMCC at KIC currently serves only the industrial center in a centralized management role. This function includes requisitioning, receipt, storage, and issue of HM items to supported organizations. Although this single HMCC could not realistically offer that level of service to all organizations within the 26th ASG, it could provide an appropriate degree of central control/oversight to the requisitioning, receipt, and

inventory management process through automated information system links to the SSAs. The SSAs, in turn, could be used (as they essentially are now) as the primary HM storage and issue points. Pharmacy business practices could be applied as needed to obtain the desired degree of control throughout the HM life cycle.

As an alternative, a second HMCC could be established at Mannheim, which would limit driving times for all supported units to 30 minutes or less.[12]

- *If pharmacy operations are successful, implement regional pharmacy programs in other ASGs on a priority basis.* If the regional pharmacy concept is successful in the 26th ASG, the next target should be the 104th ASG, which is the second largest HW generator in USAREUR.

- *Evaluate the results of the JEMMS proof of concept underway in Okinawa as a possible transition vehicle for implementation of a DoD-wide regional pharmacy concept under DLA management.*

[12] Source: Ms. Lisa Smith, Chief, Environmental Office, 26th ASG, DPW, February 2000.

Chapter 4
Vision for the Future

This chapter contains our view of the future with our HM/HW management recommendations applied. The USAREUR study sponsor requested this "vision" as a means to visualize the potential of executing significant change in HM management within the supply system.

In the first part of the new century and millennium, USAREUR moves forward with confidence, having achieved its overall objectives and vision for the future of HM/HW management. It enjoys a totally revamped HMMP, facilitating the life-cycle management of HM/HW from acquisition through disposal—as a seamless, totally integrated program under DCSLOG lead.

The HMMP has become a true "commander's program," having attained increased visibility and emphasis at all organizational levels. The program operates within the framework of a single, integrated USAREUR HM/HW regulation. Command and annual general inspection programs include the HMMP as a principal focus area to ensure that newfound momentum is not lost and continued innovation is sustained through routine senior leader oversight.

Improved business practices have been institutionalized, incorporating traditional pharmacy and P2 principals in all activities within the HM/HW management life cycle. HM items are authorized on the basis of commander-approved use and user lists, and unit of use has been adopted as the baseline for requisitioning HM items. The HMMP control group provides continuous, high-level management oversight for the program to ensure that HMs continue to receive emphasis in relation to the relative degree of risk they pose to the command.

The newly upgraded automated logistics information system, GCSS-A, serves as the foundation for the integrated program, providing HM life-cycle management and tracking functional capabilities to maintain the appropriate degree of control over HMs at all organizational levels—entirely within the existing logistics system. As a result, the need for separate, duplicative HM management systems has been eliminated.

Realizing Success

USAREUR's actions to institutionalize improved business practices have had a positive effect on operational readiness. Significant cost savings are being realized through reductions in HM purchases, HW disposal, HM storage requirements, and HM loss/waste resulting from shelf-life expiration. Consolidation and centralized management of unit basic loads has drastically reduced the amount of

HM stock at the tactical unit level. The theater-wide HM training program has helped to reduce the number of HM/HW spills, personnel exposures, and resulting disability claims. Technological efforts have met with increasing success, identifying less-hazardous substitutes for many of the HM items formerly required by system specifications and standards.

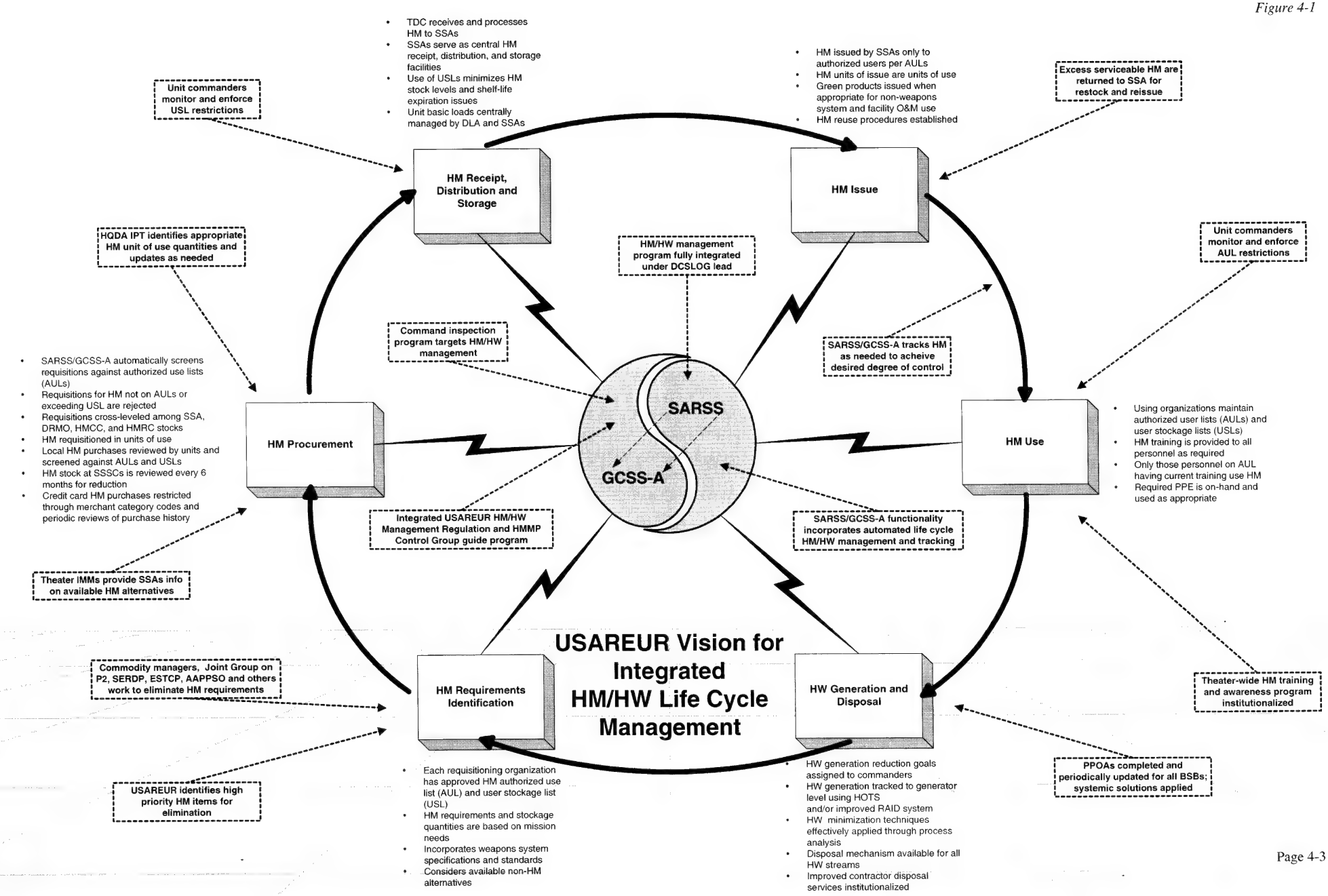
Similarly, compliance savings are being realized because fewer HM/HW management-related regulatory citations and associated fines and penalties are being received. As an additional but less-tangible benefit, USAREUR and the Army as a whole are increasingly viewed as partners who are more environmentally responsible and sensitive to the needs and expectations of the host nation and its supporting local communities.

INTEGRATED HM/HW LIFE-CYCLE MANAGEMENT ACTIVITIES

The success of the HMMP results from improved business practices that have been incorporated into the six principal activities of the integrated HM/HW life cycle and increased command emphasis to ensure their effective application. These six activities are shown in Figure 4-1 and discussed in the following sections (all activities shown occur simultaneously at any given point in time).

HM Requirements Identification

Commanders of USAREUR organizations, working in coordination with supporting ESOH staff, identify the minimum essential HM items required to support mission accomplishment. Specifications and standards for the various weapons systems in use across the command continue to generate much of the demand for HM items. To minimize HM requirements, however, USAREUR policy requires that each requisitioning organization maintain up-to-date AULs and USLs. The AUL specifies which HM items (by NSN) an organization can order, and the USL specifies the minimum and maximum quantities of those items that can be stocked for use. Enforcement of these restrictions through the automated logistics system and chain of command ensures that only HM items that are absolutely essential to mission accomplishment (and for which no approved less-hazardous alternative exists) are procured and used.


USAREUR Vision for Integrated HM/HW Life Cycle Management
HM Receipt, Distribution and Storage
HM Issue
HM Procurement
HM Use
HM Requirements Identification
HW Generation and Disposal
SARSS
GCSS-A
TDC receives and processes HM to SSAs
SSAs serve as central HM receipt, distribution, and storage facilities
Use of USLs minimizes HM stock levels and shelf-life expiration issues
Unit basic loads centrally managed by DLA and SSAs
HM issued by SSAs only to authorized users per AULs
HM units of issue are units of use
Green products issued when appropriate for non-weapons system and facility O&M use
HM reuse procedures established
Unit commanders monitor and enforce USL restrictions
Excess serviceable HM are returned to SSA for restock and reissue
HQDA IPT identifies appropriate HM unit of use quantities and updates as needed
HM/HW management program fully integrated under DCSLOG lead
Unit commanders monitor and enforce AUL restrictions
Command inspection program targets HM/HW management
SARSS/GCSS-A tracks HM as needed to acheive desired degree of control
SARSS/GCSS-A automatically screens requisitions against authorized use lists (AULs)
Requisitions for HM not on AULs or exceeding USL are rejected
Requisitions cross-leveled among SSA, DRMO, HMCC, and HMRC stocks
HM requisitioned in units of use
Local HM purchases reviewed by units and screened against AULs and USLs
HM stock at SSSCs is reviewed every 6 months for reduction
Credit card HM purchases restricted through merchant category codes and periodic reviews of purchase history
Using organizations maintain authorized user lists (AULs) and user stockage lists (USLs)
HM training is provided to all personnel as required
Only those personnel on AUL having current training use HM
Required PPE is on-hand and used as appropriate
Integrated USAREUR HM/HW Management Regulation and HMMP Control Group guide program
SARSS/GCSS-A functionality incorporates automated life cycle HM/HW management and tracking
Theater IMMs provide SSAs info on available HM alternatives
Commodity managers, Joint Group on P2, SERDP, ESTCP, AAPPSO and others work to eliminate HM requirements
Theater-wide HM training and awareness program institutionalized
USAREUR identifies high priority HM items for elimination
Each requisitioning organization has approved HM authorized use list (AUL) and user stockage list (USL)
HM requirements and stockage quantities are based on mission needs
Incorporates weapons system specifications and standards
Considers available non-HM alternatives
HW generation reduction goals assigned to commanders
HW generation tracked to generator level using HOTS and/or improved RAID system
HW minimization techniques effectively applied through process analysis
Disposal mechanism available for all HW streams
Improved contractor disposal services institutionalized
PPOAs completed and periodically updated for all BSBs; systemic solutions applied

In addition to these restrictions, USAREUR has implemented an ongoing program to identify environmentally preferable alternatives to HMs. Products from the DLA and GSA green product catalogs are used to the maximum extent practical. HM items that constitute the largest segment of the HW stream (e.g., high-VOC paints, lithium batteries) have been identified for HQDA as high-priority items for potential elimination or substitution. Commodity managers, the Joint Group on P2, the Army Acquisition Pollution Prevention Support Office (AAPPSO), and other organizations working to find technical solutions are focusing their efforts on these high-priority items. Once acceptable alternatives are identified and made available, the HM items are removed from the AMDF (as an HQDA action) so they can no longer be requisitioned and brought into the command.

HM Procurement

Several actions take place during this phase to enforce desired restrictions on the procurement of HM items. Within GCSS-A, all requisitions arriving at the SSA are automatically screened against the HMIS. Items that are determined to be hazardous are cross-referenced (by DODAAC) against the requisitioning organization's AUL. If the HM item is not on the AUL, the requisition is automatically rejected.

Requisitions that survive this initial validation are then screened against green product catalogs to determine if acceptable substitutes are available. The SSA support staff stays current on green product availability through periodic updates from theater IMMs. If orders for new HM items are required, they are first cross-leveled among SSA, DRMO, HMCC, and HMRC stocks before the new material is requisitioned. As a result of successful HQDA IPT actions to identify appropriate HM unit-of-use quantities, AMDF unit-of-issue quantities for HM items now match desired unit-of-use quantities, thereby helping to minimize future waste generation.

Restrictions on local purchases of HM items also are used to effectively reduce the amount of HM coming into the command. The commander's representative reviews and approves all local purchase requests (including purchase orders, BPAs, and credit cards) after careful consideration of AUL and USL restrictions. Credit card purchases are further restricted through assignment of merchant category codes to limit the number of authorized vendors where the cards can be used. Finally, SSSC HM items in stock are reviewed on a semiannual basis or with the integration of new weapons systems or system modification for removal or substitution with green product alternatives.

HM Receipt, Distribution, and Storage

To minimize resource requirements for HM life-cycle management, USAREUR has integrated improved business practices within the logistics system, utilizing existing facilities and organizational (e.g., support-to-supported) relationships. To facilitate this process, restrictions imposed by these business practices are used in

conjunction with the current TDC/SSA physical distribution system to achieve desired HM receipt, distribution, and storage objectives.

Under this approach, the TDC continues to receive HM items from suppliers and distribute them to the SSAs, which serve as central HM receipt, storage, and distribution facilities at the local level. Use of USLs across the command minimizes HM stock levels at the SSAs and unit-level supply rooms. A newly instituted agreement with the DLA has resulted in the removal of Class III POL items from tactical UBLs for central storage and management under DLA oversight. Remaining UBL items have been relocated to supporting SSAs for central storage and management, when appropriate. These latter actions have significantly reduced the amount of excess HM being stored in units and associated shelf-life expirations that increased USAREUR's HW disposal volume in the past.

HM Issue

HM items procured locally or issued by SSAs are made available only to authorized users, per approved AULs. HM units of issue are equivalent to actual units of use. When practical, issuing activities substitute approved green product catalog items, especially for use with non-weapons system and general facility O&M activities.

In furtherance of other efforts to minimize the generation of HW, procedures are in place to provide for the efficient reuse of excess, serviceable HM before shelf-life expiration mandates disposal. All SSAs accept unopened, serviceable excess HM and return it to stock for subsequent reissue to authorized users. When requested, SSA personnel help organizations determine whether DoD has authorized shelf-life extensions for selected HM items. When extensions have been authorized, units are given the option of either turning in the item to the SSA or retaining it for future use.

In addition to SSA turn-in and reuse procedures, USAREUR has established HMRCs at selected locations to facilitate turn-in and free issue of serviceable excess HM items to authorized users. HMRCs are established and used only when supporting SSAs cannot accept these items because of storage limitations or other operational constraints. HMRCs are established at selected locations only after careful economic evaluation of projected operating costs and net benefits, as well as assurance that they will not simply duplicate services that should be provided by the SSAs.

HM Use

User organizations maintain and enforce AULs to ensure that only personnel who have a valid need, current training, and required PPE (when appropriate) are allowed access to HM items. Unit commanders continuously monitor and enforce AUL restrictions to ensure compliance at all times.

Training for all personnel is provided through the newly expanded theater-level HM training program. Activity-based procedures are used to determine which personnel require training, and to what degree. Specific HM training requirement determinations are based on activities performed rather than job descriptions or titles. All personnel who interact with HM, directly or indirectly, receive the appropriate amount of training.

HW Generation and Disposal

Implementation of requisitioning restrictions, HM reuse procedures, and other improved business practices has dramatically reduced HM consumption and resulting HW generation throughout USAREUR. DRMS-I continues to provide HW disposal services through its established network of host nation certified contractors. Past contractor performance problems have been resolved by implementing comprehensive performance-based incentive programs (e.g., payment of bonuses to contractors that exceed established performance standards).

In concert with the philosophy of the HMMP as a commander's program, USAREUR has taken steps to increase the visibility of HW disposal and associated costs. HW generation reduction goals are routinely assigned to each HW-generating organization at all levels of command. These goals fully support the broad HW reduction goals outlined in the P2 strategic plan. Although HW disposal funding continues to be centrally managed at the BSB level, HOTS and the DLA's newly revamped RAID systems enable precise tracking of HW to the generator level, facilitating quarterly command-wide reporting of progress in attaining and sustaining assigned HW reduction goals.

IMMs perform comprehensive supply chain analyses to ensure that disposal mechanisms are in place for all HM items used in theater. As a result, past disposal problems, such as that involving used gas cylinders, have been eliminated. To further reduce the likelihood of future disposal problems, contracts are used when needed to procure local products that meet Army requirements and host nation industrial standards.

To further reduce HW disposal costs, USAREUR continues to pursue P2 solutions to its most pressing HW generation problems. PPOAs have been completed for each BSB and are updated as industrial processes and mission requirements change. These PPOAs target HW generating processes for HM substitution or modification to eliminate or reduce HW requirements. When cost-effective P2 solutions are identified, they are carefully evaluated for broad application across the command to take advantage of economies of scale and effort.

NEXT STEPS

The results depicted in the foregoing scenario will not be achieved by accident. Ultimately, success in realizing the future vision will require a coordinated and determined cross-functional effort to effect needed change. Tough decisions will have to be made, especially as USAREUR strives to balance the need for change against the need to maintain combat readiness in the face of declining resources. Nevertheless, the goal is realistically achievable. In Chapter 5, we propose a prioritized, phased approach to realizing the vision over the coming months.

Chapter 5
Achieving the Vision

INTRODUCTION

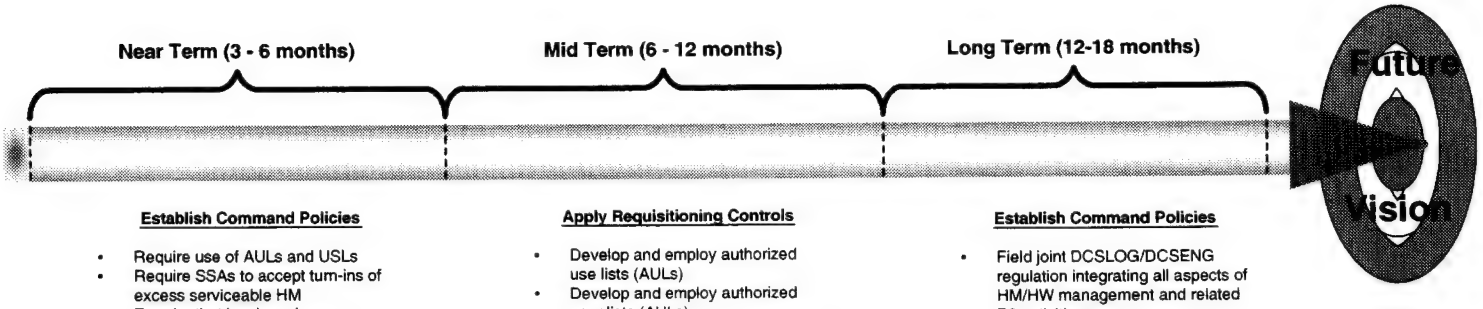
In Chapter 3, we recommend ways to improve life-cycle management and control of HM. In Chapter 4, we present a scenario depicting the results from institutionalization of those recommendations, with a focus on improved management practices within a single, integrated system as a logistics imperative.

Previous studies (validated by this effort) suggest that many systemic HM management problems will be difficult to resolve in the near future with available resources. Pilot testing of the traditional pharmacy concept has had positive results, but broad application of that approach across USAREUR may not be the most cost-effective solution over the long term. This is primarily because traditional pharmacies operate separately from the supply system, utilizing independent information management systems, and often require additional support staffs that exceed authorizations. The wide physical dispersion of supported units and the resulting cost of over-road transport compound these issues in USAREUR.

Underlying this study is the belief that a more efficient and effective life-cycle solution is achievable at reduced cost within the supply system itself. Our recommendations outline a course of action that will achieve the desired result. However, a critical component of this solution is implementation of programming changes within SARSS or GCSS-A to provide the requisite automated functional support capabilities. If this reprogramming cannot be accomplished, our proposed solution may not be realistically achievable, and there may be little recourse except to proceed with earlier proposals for traditional pharmacy implementation.

Notwithstanding this possibility, this chapter details the actions that must be undertaken to ultimately achieve the future vision. These actions are summarized in Figure 5-1.

Figure 5-1. Summary of Actions Needed to Achieve the Vision



Establish Command Policies

- Require use of AULs and USLs
- Require SSAs to accept turn-ins of excess serviceable HM
- Require that local purchases maximize use of green product catalogs
- Require that all local purchases of HM items be reviewed and approved by unit MMs
- Develop metrics to measure progress in acheiving HMMP objectives
- Include HM management on command and annual general inspections

Issue Command Directives

- Theater IMMs will monitor status of HM alternatives and provide updates to SSAs
- SSSC working groups will conduct semi-annual reviews of HM stocks
- All BSBs will use HOTS to track HW disposal to generator level
- Commanders will be assigned and achieve HW reduction goals consistent with P2 Strategic Plan

Request External Assistance

- Program SARSS/GCSS-A to facilitate AUL development
- HQDA to establish IPT to determine appropriate units of issue/use for HM
- HQDA to evaluate feasibility of integrating HSMS functionality into SARSS/GCSS-A
- HQDA, GSA, DLA, HQ AMC complete review of HMICs and validate codes for items in 19 targeted FSCs
- Identify USAREUR high priority HM items to HQDA for substitution and/or elimination

Apply Requisitioning Controls

- Develop and employ authorized use lists (AULs)
- Develop and employ authorized user lists (AULs)
- Develop and employ user stockage lists (USLs)

Address HM Reuse and Disposal Issues

- Place SARSS-1 boxes at all DRMOs, HMRC, and HMCC to facilitate cross leveling process
- Complete supply chain analyses for all HM in use within theater
- Conduct 100% inventory of HM against approved USLs
- Turn in or dispose of HM excess to USL
- Validate requirements for HMRC at Wuerzburg and elsewhere
- Expand coverage of Wuerzburg HMRC and/or establish others if justified

Centralize Unit Basic Loads (UBL)

- Investigate feasibility of having DLA centrally manage Class III POL items
- Relocate remaining UBL HM items to SSAs if appropriate

Increase Command Emphasis

- Designate HMMP commander's program
- Expand existing theater wide HM training and awareness program
- Periodically assess HW disposal data across the command against assigned reduction goals
- Review effects of improved business practice integration on resolving HM management issues

Establish Command Policies

- Field joint DCSLOG/DCSENG regulation integrating all aspects of HM/HW management and related P2 activities
- Evaluate options for placing additional controls on credit card purchases

Provide Management Tools and Conduct Assesments

- Request that DLA enhance capability of RAID to track HW disposal to generator level
- Complete P2 opportunity assessments for all BSBs
- Periodically update and evaluate identified P2 initiatives for potential application across the command

Assess Effectiveness of Pilot Programs

- Evaluate effects of improved business practice integration on resolving HM management issues
- Evaluate net costs and benefits of pharmacy pilot projects
- Assess net benefits of both alternatives
- If appropriate, expand KIC HMCC operation in 26th ASG as proof of concept for regional pharmacy approach
- Implement regional pharmacy programs as appropriate in other ASGs on a priority basis (104th ASG)
- Evaluate results of DLAs JEMMS proof of concept test in Okinawa as possible transition vehicle to regional approach

ACTION MATRIX

In this section, we present a matrix (Table 5-1) detailing the principal actions summarized in Figure 5-1 for the near term (3–6 months), mid term (6–12 months), and long term (12–18 months). We have identified a total of 34 distinct actions. In each case, we provide

- a general description of the action,
- its purpose for achieving the vision,
- a recommended lead agency or agencies,

- a description of the principal mechanism through which the action should be accomplished (e.g., policy memo), and
- the specific performance measure or measures that should be used to determine when the action has been completed.

Near-term actions (Priority 1) include establishing requisite command policy, issuing related command directives as appropriate, and submitting formal requests for assistance to HQDA and other agencies outside USAREUR that maintain or control supporting management information systems and manage HM items.

Mid-term actions (Priority 2) include developing and applying HM requisitioning controls, increasing the visibility of and providing for reuse of HM items, completing pending agreements with the DLA to centralize management of HM items from unit basic loads, and increasing command emphasis on HM management through training and evaluation programs.

Long-term actions (Priority 3) include fielding an integrated HM/HW/P2 regulation to institutionalize HMMP policies and procedures, conducting PPOAs and supply chain analyses to identify systemic solutions to remaining issues, and assessing the overall effectiveness of the traditional pharmacy and business practice integration alternatives. In the last instance, the objective is to determine whether business practice integration is effective in addressing current program shortfalls, or if the traditional pharmacy concept is ultimately required. If USAREUR ultimately selects traditional pharmacy implementation, a regional approach (similar to that being field-tested by the DLA under the JEMMS initiative) may offer the greatest degree of control for the lowest cost.

Table 5-1. Matrix of Actions Needed to Achieve the Vision

Item	Priority	Action	Purpose	Lead agency	Mechanism	Performance measure
1	1	Establish formal program to execute, monitor, and report progress in achieving objectives of HMMP	Focus or redirect efforts and monitor progress in implementing improved business practices	DCSLOG	Internal DCSLOG memo or SOP	Memo or SOP published; program integrated in routine cyclic oversight process of command
2	1	Establish policy requiring authorized use lists, authorized user lists, and user stockage levels	Establish requirement to implement improved business practices	DCSLOG	Formal HQ, USAREUR, policy memorandum	Policy memorandum issued

Table 5-1. Matrix of Actions Needed to Achieve the Vision (continued)

Item	Priority	Action	Purpose	Lead agency	Mechanism	Performance measure
3	1	Request programming change to SARSS or GCSS-A to enable development of table of authorized HM items by DODAAC and automatic cross-check of HM requisitions when submitted	Provide for implementation of AULs	DCSLOG, Logistics Automation	Formal request to SARSS program manager through program manager for GCSS-A	Formal request to SARSS program manager submitted and processed
4	1	Request that HQDA establish IPT to determine appropriate units of use and issue for HMs	Minimize waste of HM by ensuring that appropriate units of issue are available to match units of use requirements	DCSLOG	Formal request to HQDA DCSLOG asking that IPT be formed to undertake this tasking for Army at large	Formal request to HQDA submitted and processed
5	1	Establish policy requiring SSAs to accept all unopened, unused excess serviceable HMs for turn-in and return to stock; also require SSAs to help units determine shelf-life extensions for HM items	Minimize waste of HMs by ensuring serviceable excess is returned to stock rather than being disposed as HW	DCSLOG 21st TSC 3rd Corps Support Comment SSAs	Formal HQ, USAREUR, policy memorandum to SSAs; modification to USAREUR supply management regulation (710-2)	Policy memorandum issued; requirements incorporated in AR 710-2
6	1	Require theater item managers to monitor status of approved less-hazardous alternatives to HMs and provide updates to SSAs	Ensure that requisitioning organizations are aware of availability of less hazardous substitutes for HMs	DCSLOG 200th TAMMC	Action memorandum to 200th TAMMC	Action memorandum issued
7	1	Request that HQDA evaluate feasibility of integrating HSMS functionality in SARSS or GCSS-A	Provide requisite functionality within SARSS or GCSS-A to facilitate life-cycle HM management within logistics system	DCSLOG	Formal request to SARSS or GCSS-A program managers	Formal request to HQDA submitted and processed
8	1	Require that SSSC working groups conduct semi-annual reviews of SSSC HM stocks	Eliminate or reduce number of line items on hand	DCSLOG	Action memorandum to SSSC working groups	Action memorandum issued
9	1	Establish policy requiring SSSCs, SSAs, and activities to use local purchase; maximize use of DLA and GSA green product catalogs wherever feasible	Reduce or eliminate HM acquisitions	DCSLOG	Formal HQ, USAREUR, policy memorandum to SSSCs and SSAs	Policy memorandum issued
10	1	Establish policy requiring unit material managers to review and approve all local purchases of HM	Reduce or eliminate HM acquisitions	DCSLOG	Formal HQ, USAREUR, policy memorandum	Policy memorandum issued

Table 5-1. Matrix of Actions Needed to Achieve the Vision (continued)

Item	Priority	Action	Purpose	Lead agency	Mechanism	Performance measure
11	1	Request that HQDA, GSA, DLA, and HQ, AMC, complete review of methodology used to assign HMICs and validate all codes in HMIS for NSN items in 19 targeted FSCs	Improve accuracy of HMIS HMIC entries; facilitate identification of all HM items in use within theater	DCSLOG	Formal request to affected agencies to undertake this tasking for Army at large	Formal request to affected agencies submitted and processed
12	1	Establish initial capability to track HW disposal to generator level, using HOTS	Facilitate identification of HW generators to target processes and procedures for HW reduction actions	DCSLOG/ DCSENG	Action memorandum to BSBs mandating use of HOTS	Action memorandum issued
13	1	Assign HW reduction goals to unit commanders consistent with P2 strategic plan	Increase visibility of HW disposal quantities and costs to generating units	DCSLOG/ DCSENG	Action memorandum to unit commanders and ASG commanders	Action memorandum issued
14	1	Identify USAREUR high-priority HM items to HQDA for substitution or elimination	Facilitate identification of less-hazardous substitutes and removal of HM items from AMDF	DCSLOG/ DCSENG	Joint review by DCSLOG/DCSENG staff and formal request to HQDA agencies to place priority on finding alternatives	Completion of joint review and submission of formal request to HQDA agencies
15	1	Establish policy to include improved HM management business practices on future command and annual general inspections	Increase visibility and establish importance of HMMP as commander's program	DCSLOG	Formal HQ, USAREUR, policy memorandum, signed by Commanding General, to Inspector General and all USAREUR commanders	Policy memorandum issued
16	2	Develop authorized use lists	Provide for increased controls at SSA level over requisitioning of HM items	Unit commanders in coordination with supporting ESOH staff	Unit commanders develop AULs in coordination with ESOH staff; AULs reviewed and approved by next higher organization in chain of command	Copy of approved AUL provided to DCSLOG
17	2	Develop authorized user lists	Provide for increased controls at unit level over who can access and use HMs	Unit commanders in conjunction with supporting ESOH staff	Unit commanders develop user lists in coordination with ESOH staff; lists reviewed and approved by next higher organization in chain of command	Certification by unit commanders that user lists have been developed and implemented and will be updated at least quarterly

Table 5-1. Matrix of Actions Needed to Achieve the Vision (continued)

Item	Priority	Action	Purpose	Lead agency	Mechanism	Performance measure
18	2	Develop HM user stockage lists	Provide for increased controls at unit level over minimum and maximum quantities of HMs that can be stocked at any given time	Unit commanders	Unit commanders, in consideration of mission requirements and table of organization and equipment (TOE)/Table of distribution and allowance (TDA) authorizations	Certification by unit commanders that USLs have been developed and implemented and will be updated at least annually
19	2	Conduct 100 percent inventory of HMs against approved USLs; turn in or dispose of excess HMs as appropriate	Ensure that all HM excess to approved USL is turned in for reuse or disposal as appropriate	Unit commanders	Unit commanders and supply staff conduct inventory and oversee turn in of excess HMs	Certification by unit commanders that HM inventories have been conducted and that excess HM has been properly disposed
20	2	Place SARSS-1 boxes at all DRMOs, HMRC, and HMCC to provide visibility for serviceable excess HMs	Minimize requisitioning of new HMs and disposal of serviceable HMs by ensuring available stocks in theater are used before expiration	DCSLOG	Action memorandum to DCSLOG, Logistics Automation	Action memorandum issued; SARSS-1 boxes installed and operational at all DRMOs, HMRC, and HMCC
21	2	Validate need for and cost-effectiveness of Wuerzburg HMRC; consider expanding coverage to include other ASGs or establishing additional HMRCs, if economically justified	Ensure that adequate HM reuse alternatives are available when SSAs cannot satisfy reuse requirements	Commander, 98th ASG	Conduct appropriate study to evaluate HMRC cost-effectiveness and need to expand coverage	Study completed
22	2	Investigate feasibility of having DLA centrally manage Class III POL items from unit basic loads	Ensure appropriate shelf-life management of HM items in UBL, including stock rotation, thereby minimizing disposal as HW	DCSLOG	Memorandum of Agreement (MOA) between USAREUR and DLA	Signed MOA and establishment of central storage facility
23	2	Relocate remaining UBL HM items to SSAs if appropriate	Ensure appropriate shelf-life management of HM items in UBL, including stock rotation, thereby minimizing disposal as HW	DCSLOG 21st TSC 3rd COSCOM	Action memorandum to unit commanders, SSAs, and ASG commanders	Action memorandum issued; HM items relocated to SSAs for central management
24	2	Expand existing theaterwide HM training and awareness program	Provide requisite training to all personnel who interact with HM	DCSLOG/ DCSOPS	Formal memo establishing HM training program and detailed SOP	Publication of memo and development of SOP

Table 5-1. Matrix of Actions Needed to Achieve the Vision (continued)

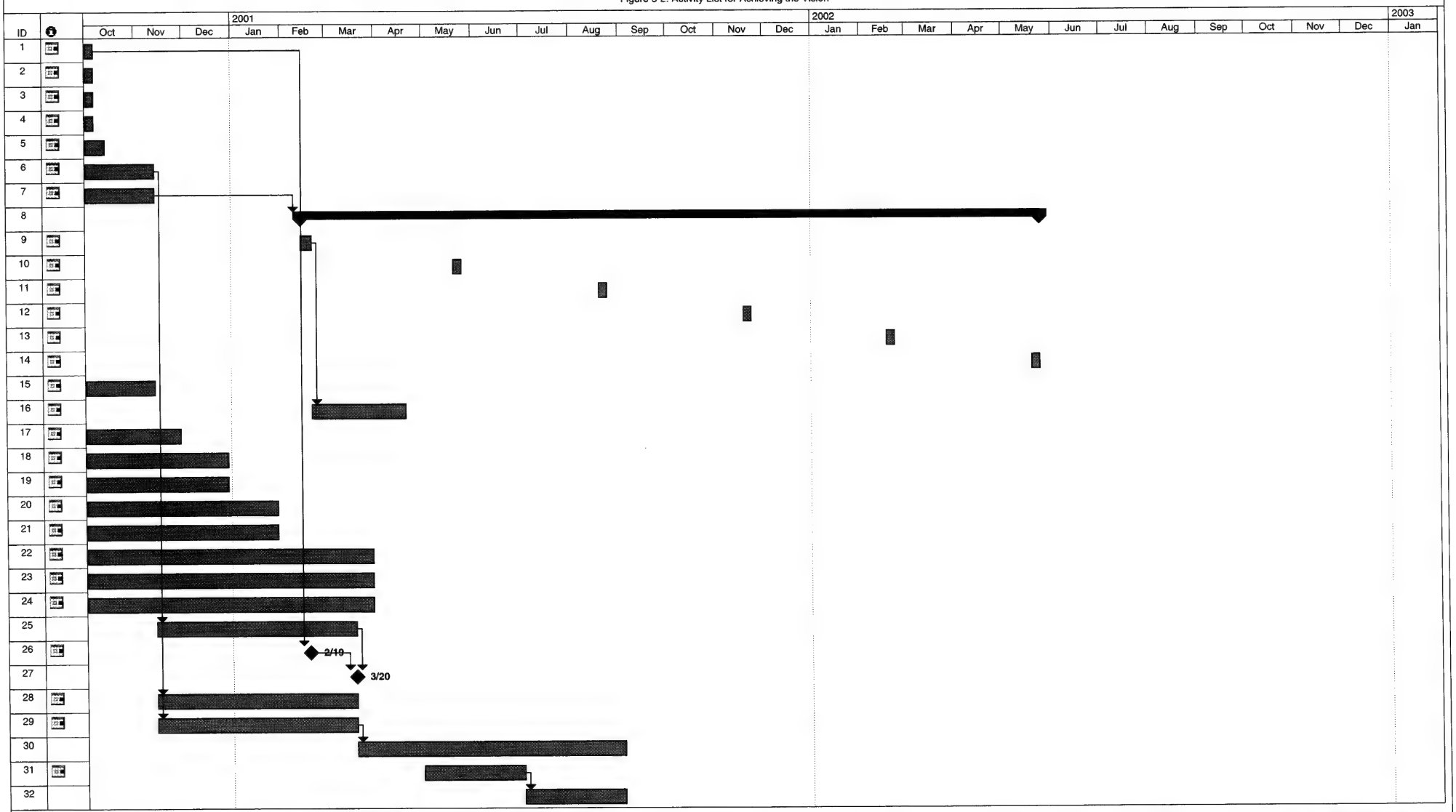
Item	Priority	Action	Purpose	Lead agency	Mechanism	Performance measure
25	2	Periodically assess HW disposal data across command to unit level	Identify principal HW generators, HM consumers, and processes using HMs; target processes for modification or elimination of HMs	DCSLOG/ DCSENG	Joint review by DCSLOG/DCSENG staff	Preparation of information paper or decision memorandum recommending course of action to DCSLOG
26	2	Complete supply chain analyses for all HMs in use within theater	Ensure adequate HW disposal mechanism exists for all HM items	DCSLOG/ 200th TAMMC	Action memorandum to 200th TAMMC	Action memorandum issued
27	3	Evaluate options for placing additional controls on credit card purchases	Reduce or eliminate HM acquisitions	DCSLOG	Review by DCSLOG staff	Preparation of information paper or decision memorandum recommending course of action to DCSLOG
28	3	Develop joint DCSENG/DCSLOG regulation integrating all aspects of HM/HW program management and related P2 activities	Increase emphasis on HMMP as fully integrated program; provide single, comprehensive source of program guidance	HQ, USAREUR HMMP Control Group	Action memorandum to HMMP Control Group	Action memorandum issued
29	3	Request that DLA enhance capability of RAID to provide tracking of HW disposal to generator level	Facilitate identification of HW generators to target processes and procedures for HW reduction actions	DCSLOG/ DCSENG	Formal request to DRMS-I to undertake this tasking as ultimate replacement for HOTS	Formal request to DRMS-I submitted and processed
30	3	Complete P2 opportunity assessments for all BSBs; periodically update and evaluate identified P2 initiatives for potential application across command	Identify principal HW generators, HM consumers, and processes using HMs; target processes for modification or elimination of HMs	DCSENG	Conduct PPOAs as needed	Completion of required PPOAs and publication of results
31	3	Evaluate effects of improved business practice integration on resolving HM/HW management issues; evaluate net costs and benefits of pharmacy pilot projects at KIC, Honenfels, Grafenwhor, and 574th SSA; assess net benefit of traditional pharmacy operations and business practice integration	Determine most efficient, cost-effective approach to HM life-cycle management for USAREUR for long term	DCSLOG/ DCSENG	Joint review by DCSLOG/DCSENG staff	Preparation of information paper or decision memorandum recommending course of action to DCSLOG

Table 5-1. Matrix of Actions Needed to Achieve the Vision (continued)

Item	Priority	Action	Purpose	Lead agency	Mechanism	Performance measure
32	3	Expand current KIC HMCC operation in 26th ASG as proof of concept for implementing regional pharmacy approach	Determine if regional pharmacy approach is feasible at ASG level	DCSLOG/ DCSENG	Detailed implementation and test plan developed jointly by DCSLOG, DCSENG, and 26th ASG staff	Execution of plan and preparation of information paper or decision memorandum recommending course of action to DCSLOG
33	3	Implement regional pharmacy programs as appropriate in other ASGs on a priority basis, beginning with 104th ASG	Expand regional pharmacy approach, if proven successful	DCSLOG/ DCSENG	Action memorandum to affected ASGs	Action memorandum issued
34	3	Evaluate results of DLA's JEMMS proof-of-concept test in Okinawa	Use as transition vehicle to implement DoD-wide regional pharmacy concept under DLA management	DCSLOG/ DCSENG	Joint review by DCSLOG/DCSENG staff	Preparation of information paper or decision memorandum recommending course of action to DCSLOG

Figure 5-2 depicts a proposed schedule and milestones for achieving the vision over the next 3 years, assuming a start date on or about 1 October 2000.

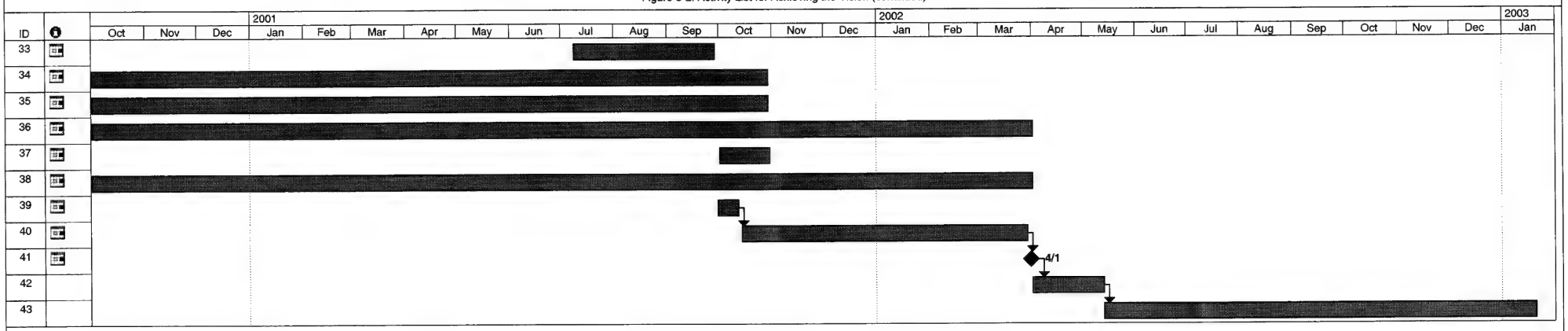
Figure 5-2. Activity List for Achieving the Vision



Project: Figure 5-2
Date: Thu 6/1/00

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

Figure 5-2. Activity List for Achieving the Vision (continued)



Project: Figure 5-2
Date: Thu 6/1/00

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

Appendix A
Overview of Pharmacy Concept for Hazardous Material Management[1]

GENERAL

The information in this appendix is provided solely for the benefit of the reader who may not be thoroughly familiar with the pharmacy concept for HM management. The reader should note that pharmacies can be established to operate in many different ways, depending on available resources and the needs of supported units. The information presented here does not necessarily apply unilaterally to all pharmacy operations.

The pharmacy concept evolved from work during the late 1980s by the Navy and Air Force to address safety and occupational health concerns associated with HM use. From that beginning, the pharmacy concept has grown into a multi-faceted approach to managing complex HM issues such as tracking at the product/chemical constituent level, requirements identification, requisition and acquisition control, basis of issue determination, authorized user determination, issue control and transaction history, redistribution, and environmental compliance reporting requirements.

AUTOMATED HM MANAGEMENT AND TRACKING

The key tool required to support traditional pharmacy operations is an automated HM management and tracking system. A typical example is the Hazardous Material Management System (HMMS), which was developed at the Ogden Air Logistics Center, Hill Air Force Base (AFB), and refined with assistance from the now-defunct Joint Logistics Systems Center (JLSC) at Wright-Patterson AFB. Another example is the DESCIM migration system known as the Hazardous Substance Management System (HSMS). The HSMS is being fielded to CONUS Army installations (a total of 39 Army installations had the system in operation at the time this report was prepared) and ultimately will be fielded at a total of 92 Army installations worldwide.

The capabilities of the HSMS generally fall within nine categories, as indicated in the following summary.

[1] Most of the information presented here was compiled from an LMI White Paper, *The Hazardous Materials Pharmacy: An Idea With Merit*, October 1995, and LMI Report AR920L1, *System Functionality Assessment of the Hazardous Substance Management System and the Hazardous Material Management System*, August 1999.

Material Authorization

This category includes the capability to manage and control authority and approval to order HMs and track the anticipated receipt of authorized material purchases. Authority and approval to order HMs is based on factors such as material restrictions or qualifications of the person or activity requesting the material. Specific capabilities include the following:

- Restricting unauthorized users from ordering HMs
- Restricting the ordering of selected HMs
- Identifying HMs for which no MSDS is on file
- Authorizing HM purchase
- Developing and maintaining an AUL
- Posting due-ins of HM items.

Receipt and Storage

This category consists of the capability to account for the receipt of HMs, create bar-code labels that uniquely identify containers, and maintain the visibility of material in storage. Material in storage must be visible by individual containers, kits or collections of items, chemical constituency, manufacturer batch or lot number, and shelf life. Specific capabilities include the following:

- Posting initial receipt
- Tracking HMs by chemical constituent
- Tracking HMs by manufacturer batch or lot number
- Tracking and visibly identifying HMs by shelf life, including extended shelf-life
- Tracking individual container of HMs by unique number
- Tracking multiple items (hazardous or non-hazardous, with or without shelf life) as a kit or collection of items
- Bar-code labeling of individual issue container with unique number
- Remote scanning of inventory
- Reconciling inventory.

Transfer and Issue

This category refers to the capability to account for the issue and transfer of HMs, in original or decanted containers, to organizations, a unique individual, a process, or a waste container. It also includes the capability to provide specific information related to the HM issue. Specific capabilities include the following:

- Transferring/receiving HMs from main storage to issue point
- Issuing/tracking HMs to a unique individual, process, or waste container
- Breaking down (decanting) bulk HMs, uniquely serializing and relating child (issues) to parent (bulk source)
- Storing and retrieving MSDS data
- Restricting issue to individuals qualified and trained to handle HMs
- Identifying quantity of HMs required for a specific use or process
- Identifying protective equipment required with the issue of HMs
- Returning unused HMs
- Weighing issued and returned HMs.

Waste Generation

This category includes the capability to gather waste information and associated management reference information required to comply with regulatory policy, relate waste disposal to waste generators, and perform financial management of waste control. Specific capabilities include the following:

- Tracking waste by specific process
- Serializing individual waste containers and identifying specifics about the container
- Tracking regulatory time limits associated with generation
- Posting creation of containers
- Linking direct cost of waste disposal to generators

- Producing electronic notification to outside offices for sites that issue "pre-labeled" containers
- Performing Lab-pack functions, including a printout of all items within a container.

Waste Storage and Turn-In

This category consists of the capability to account for the storage and movement of HM waste, to track waste on the basis of sampling and analysis data, and to generate information required to interface with the DRMO. Specific capabilities include the following:

- Tracking storage and time frames of waste and producing storage inventories
- Tracking movement of waste containers from multiple storage areas
- Producing waste profiles (tailored by individual process or organizations) acceptable to the DRMOs and off-site treatment, storage, and disposal (TSD) facilities
- Tracking sampling and analysis data
- Producing hard-copy 1348 turn-in documents that comply with DRMO criteria
- Producing electronic 1348 documents and profiles to DRMO SHIP 4.0 or any DRMO system.

Manifest and Shipping

This category addresses the capability to track HW manifesting data and associate the manifest with the waste container, physically as well as electronically. Specific capabilities include tracking the following manifesting data:

- Transporters
- TSD facilities where waste is being shipped
- Compliance dates associated with manifesting (receipt and disposal dates)
- Disposition codes
- Identifying and attaching waste containers with manifest.

Employee Management

This category refers to the capability to manage employee information that is relevant to the handling and use of HMs. Specific capabilities include the following:

- Tracking employee-to-supervisor relationship and cost work center (zone)
- Tracking employee identification number to social security number
- Tracking employee training requirements and history.

Reports

This category includes the capability to execute pre-programmed, routine reports and to structure ad hoc reports using any of the data managed by the system. Specific capabilities include the following:

- Running canned reports
- Structuring ad hoc reports, using any of the data that the system maintains.

System

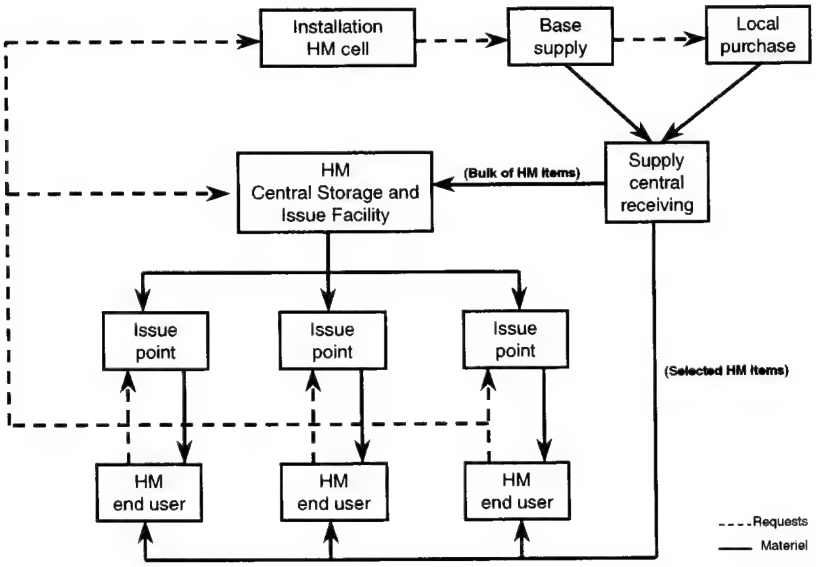
This category addresses the capability to control and restrict access to system data and perform system maintenance functions such as archiving and backing up data. Specific capabilities include the following:

- Archiving data
- Backing up data
- Recovering data from backup
- Restricting unauthorized users from information or functions.

GENERAL PHARMACY OPERATIONAL CONCEPT

Although several variations of the pharmacy concept are possible, full implementation normally incorporates the activities, functions, and relationships depicted in Figure A-1.

Figure A-1. Typical HM Pharmacy Operational Concept



HM Cell

The central point for HM management is the HM cell. The cell may be collocated with the installation logistics center to facilitate HM requisitioning, receipt, issue, and tracking. The cell simplifies processing by providing customers with a single point of contact and location for HM licensing, purchasing, and excess redistribution. Organizational structures may vary, but normally the HM cell will include staff from the following key areas, consolidated from existing positions across the installation:[2]

- *Safety and occupational health.* Responsible for reviewing all HM requests to identify worker health impacts; screens requests for new HMs to determine hazard potential; works with contracting personnel to obtain appropriate MSDS data and identifies procedures required to ensure that HMs are safely used.

- *Environmental management.* Reviews HM requests for potential environmental impacts; recommends non- or less-hazardous alternative materials, where feasible; manages HM automated tracking and management system; provides guidance on proper storage, handling, and disposal of HMs; performs routine environmental compliance inspections of pharmacy and issue point operations and units.

[2]Alternatively, most HM cell functions can be undertaken by the respective offices on an ad hoc basis, supplemented with periodic coordination meetings. Although this approach may eliminate the need for a consolidated office, it is not recommended.

- *Installation supply.* Normally a combined staff of research, demand processing, and stock control personnel. These personnel primarily order required HMs through the existing supply system and track items during the procurement process through subsequent delivery. Supply personnel also locate missing property and address various problems that may arise.

- *Operational contracting.* Processes all local purchase requests for HMs, including selecting sources, obtaining competitive pricing, conducting contract negotiations, and issuing purchase orders. Also ensures that MSDS are obtained on all HMs procured.

Ideally, under the traditional pharmacy approach, only the HM cell would have authority to requisition HMs. User requirements are consolidated to ensure the most economical quantities are ordered. The cell reviews and approves individual HM requests, as well as authorization (authorized use) lists for HMs.[3] The cell also collects and tracks information to facilitate day-to-day management and environmental/OSHA reporting. A key consideration is that the cell members ideally are existing installation personnel. Although minor modifications to job descriptions usually are required, no additional personnel (e.g., new hires) should be required.[4]

The installation commander usually will designate a single agency or activity to assume overall responsibility for pharmacy operation. The most logical choice is an organization within the logistics/supply chain.

HM Central Storage and Issue Facility

The central storage and issue facility (CSIF—also known as the HM control center, or HMCC) provides centralized storage and subsequent delivery of HMs to supported issue points or direct issue to customers from the CSIF. Upon receipt of HMs from central receiving, the CSIF will inventory, bar code, and enter the HMs into the automated tracking system. As with the HM cell, the CSIF is primarily staffed and operated with existing installation logistics personnel.[5]

An optional feature that may be incorporated within the CSIF is a decanting or breakdown point. Breakdown points enable repackaging of bulk quantities of HMs (e.g., 55-gallon drum) into smaller as-needed, basis-of-use quantities (e.g., one pint) that facilitate their application to specific projects with little to no waste or excess. The result is a reduction in inventories and liabilities, as well as cost savings related to disposal of waste and unused materials. There are, however, substantial initial capital investment and recurring O&M costs associated with construction and operation of a breakdown point.

[3] The AUL identifies specific HMs or hazardous products that have been approved for use by designated shops, processes, and personnel.

[4] Comprehensive, installation-specific cost/benefit analyses would be needed to verify this claim.

[5] In some cases, contractor personnel may be used to perform these functions.

The Army's preferred alternative should be to procure HMs directly from manufacturers and suppliers in the desired unit of use-sized containers, thereby eliminating the need for breakdown facilities. This approach already has been demonstrated with great success at Corpus Christi Army Depot (CCAD). An Army-wide pharmacy implementation effort would certainly cause manufacturers and suppliers to take notice and, in all likelihood, motivate them to modify their container sizes to meet the needs of one of the nation's largest customers.

The most efficient pharmacy systems (e.g., Hill AFB, CCAD) also utilize just-in-time delivery between suppliers and the CSIF, as well as between the CSIF and its issue points. This procedure significantly reduces processing times by tracking demand history and addressing customer needs through guaranteed delivery schedules. If DLA and Army wholesale supply systems cannot adopt this practice, however, pharmacies that primarily depend on these standard supply systems would have to maintain significant stocks of HMs. Improvements in order/ship time could possibly be achieved if HM orders were consolidated to the maximum extent possible.

HM Issue Points

The issue points receive and stock HMs from the CSIF for subsequent issue directly to authorized user personnel. Issue points normally will maintain a 2-week supply of materials, which are replenished through the just-in-time delivery process described above. Issues are strictly controlled by the automated system, which ensures that only authorized users receive HMs.

As with the HM cell and the CSIF, issue points ideally are staffed with existing logistics personnel. The typical issue point requires only one individual for operation. The number of issue points required will depend on the number of users, their physical location, and the work processes they undertake on the job. For example, Hill AFB uses 60 issue points, whereas CCAD requires only 10. Issue points usually can be collocated within existing supply or tool rooms, thereby eliminating additional capital investment costs.

Overview of HM Management Process

Under the pharmacy concept, one scenario for the HM management process might be as follows:

- The HM cell consolidates and validates HM requests from users and submits requisitions through the base supply system, local purchase, or a combination of both.
- The HMs are delivered by the manufacturer/supplier to the installation's central receiving point. The bulk of the HM items are then transferred to the CSIF, where they are immediately inventoried, bar coded, and entered

into the HM tracking system. MSDS data are used to facilitate detailed tracking of HMs by specific chemical components, weight/volume, and so forth. The HM items are then transported to issue points for further distribution to authorized users.

In some instances, selected HMs may be delivered directly to end users because of the nature of the processes for which they will be used. For example, an engine rebuild may require the use of an entire 55-gallon drum of oil or hydraulic fluid. Similarly, HMs may be delivered directly to issue points when deemed appropriate.

- If the CSIF incorporates a breakdown point, selected bulk items may be repackaged into smaller basis-of-use issue containers. The issue size will have been predetermined by the HM cell or some other installation-level committee (the same committee will have determined which specific HMs will be authorized for use). Automated tracking and inventories will be updated as each issue container is bar coded prior to delivery to the issue points.

At an issue point, the following chain of events might take place:

- An employee requests issue of a specific HM (e.g., trichloroethylene [TCE]) for use in a specific application (e.g., cleaning a system component). The employee presents an identification card that is scanned into the computer, using the bar code on the back. The computer automatically identifies the employee by zone and/or authorized use category (as an alternative to an automated system, the pharmacy may rely on predefined authorized use/user lists and user stockage lists to verify that the employee is authorized to have access to the requested HM).[6]

  For example, if the employee is overhauling an engine on a Blackhawk helicopter, the computer will display the specific HMs that are authorized for that purpose and the associated issue quantity(ies). If the employee requests an HM that is not authorized for use, the system will deny issue. The computer will automatically cross-reference all records to determine if special training, handling, and/or protective clothing requirements apply. If training is required but has not been taken or is out of date, the system will deny issue. The first time an HM is issued, the system will automatically generate an MSDS. For subsequent issues, an MSDS will be provided upon request. The typical issue takes less than 60 seconds to transact.

[6] An employee zone is defined as a group of employees under the same supervisor with similar workplace exposures. It also can be considered the employees' job, function, or area where they work. Specific HMs are authorized for use by employees within a specific zone.

- The system records the exact amount of the HM issued to the employee. After use, the employee will discard the empty container in approved disposal bins or return them to the CSIF. In some instances, a portion of the HM may remain unused. In such cases, the employee usually will be required to return the unused portion to the issue point (it also may be held until used if there is a recurring requirement for the job being performed). It will be reissued if possible. If not—for example, if the HM were contaminated—the issue point will dispose of it as a HW. Some systems incorporate bar coding (for item tracking) and digital electronic scales at issue points. HM containers are weighed on issue and return, and the system logs the precise quantity of HM used. This procedure facilitates detailed tracking of HM consumed over a given period of time (which is required for environmental/OSHA reporting) and can be used later to refine required issue quantities for specific applications. The containers are reissued until they are empty and are then discarded or returned to the CSIF for possible refilling.

DOCUMENTED SUCCESS OF PHARMACY CONCEPT[7]

CONUS Applications

To date, the Army has had the most experience with HM pharmacy operations within CONUS, primarily because priority for fielding HSMS—the principal supporting automated information management system—has been directed initially to CONUS installations. Approximately 39 Army installations have received HSMS; a total of about 90 worldwide are scheduled for fielding by 2003. At installations that currently operate HM pharmacies, the results clearly indicate that they have achieved great success since implementation.

Corpus Christi AD, TX, achieved impressive results during its first year of pharmacy operation. An initial validation study reflected a workload-adjusted reduction of more than $1 million in the amount of HMs purchased. This reduction resulted in a net recovery in just 1 year of nearly $700,000—a return of $2.91 for each $1.00 invested.

Fort Eustis, VA, achieved a 30 percent reduction in HW disposal from 1994 to 1995. Fort Eustis saved $38,000 in HM procurement and HW disposal costs and reported a $93,000 cost avoidance through HM reutilization efforts in 1996. Fort Knox, KY, collected $44,000 in excess HM inventory and provided $33,000 in free issues from that excess, thus avoiding additional acquisition costs.

Fort Campbell, KY's HMCC uses a strong customer-oriented approach to HM management by providing supported units with a 7-day supply of HM items for their operations and then providing regular replenishment automatically. The

[7] Information for this section was provided by Ms. Veronica Henzi, 26th Area Support Group Environmental Office, Heidelberg, Germany, February 2000.

HMCC avoided $1.7 million in various costs during FY98 and more than $2.5 million in FY99, earning the 1999 Tennessee Governor's Award for Excellence in HW Management. The HMCC manages more than $438,000 in excess stock collected from supported units. It also has extended the shelf life of more than 4,400 HM items, with resulting savings of about $44,000 in disposal costs. Overall, Fort Campbell reduced HW disposal by 94 percent—from 736,000 lb. in 1992 to 44,086 lb. for the first half of FY99.

Implementing HSMS enabled Detroit Arsenal, MI, to save more than $215,000. Its HMCC dispensed about 33,000 gallons of fuel to various Michigan-based National Guard and Reserve units, as well as 8,500 gallons of other HM items such as oils, solvents, paints, and adhesives that would have required disposal as HW.

Although White Sands Missile Range, NM, is an Army installation, it has a large Navy presence. In 1995 it opened a joint HMMC with an Army-Navy staff and two co-managers. An HSMS was implemented in FY97 and provides services to all of White Sands. Since implementation, White Sands has succeeded in reducing its costs for HM procurement and HW disposal.

Looking outside the Army, Hill Air Force Base, NM, HM acquisitions dropped from $11 million in 1991 to $3.6 million in 1992 (a 67 percent cost reduction). These savings were based solely on the reduction in acquisition of HMs. After only 1 year of use, Hill AFB's HM inventory dropped from $2.3 million to $1.4 million (line items dropped from 3,406 to 2,889), and average monthly customer expenditures fell from $470,855 to $154,815. Average processing time for previous HM demands also was reduced—from 1 day to 4.7 minutes.

Operating processes at Hill AFB were changed very little (only a 15 percent reduction in line items), but sheer efficiencies in purchasing and distribution resulted in the 67 percent cost reduction. For this reason, the pharmacy concept represents a logistics, rather than environmental, imperative.

OCONUS Applications

Although the number of overseas installations operating HMCCs is not quite as large, they also have achieved impressive results. The Army's HMCC at the Kaiserslautern Industrial Center, Germany, reduced the center's HM inventory by more than one-third and avoided $338,000 in disposal costs. In addition, by accepting excess HMs from units all over Europe, the Army saved nearly $58,000 on purchase costs by reissuing the excess free of charge to other units with a valid need for the items.

Schofield Barracks, HI, implemented its HSMS in 1997 within its Directorate of Public Works (DPW). The DPW realized many benefits from HSMS implementation in conjunction with reviewing its HM requirements and acquisition processes. As a result, the installation reduced the HM inventories in its maintenance

and engineering shops by 40 percent. It also realized higher ratings on its quarterly Environmental Compliance Officer (ECO) inspections.

Outside the Army, the Naval Air Station in Sigonella, Italy, has saved the Navy thousands of dollars through its Consolidated Hazardous Reutilization Inventory Management Program (CHRIMP). In less than 18 months, the installation saved more than $370,000 by ensuring that customers ordered only the exact amount of HM items needed. This highly successful program helped earn the installation the Navy's top environmental award—the first ever for an overseas installation.

The newly implemented Ramstein Air Force Base, Germany, HM pharmacy ultimately will serve 350 customers. It will eventually replace base supply as the central ordering point for HM items, ensuring positive control of base supply stocks.

Other Benefits of Pharmacy Operations

Although reductions in HM purchases have been used to validate savings to date, many other benefits are inherent in the pharmacy concept of HM management. The pharmacy approach provides additional cost savings, as well as less-tangible (but equally important) compliance savings.

- Cash recovery benefits
  - ➤ Reduced HMs purchased
  - ➤ Reduced HW disposed
  - ➤ Reduced HM storage requirements (especially if just-in-time delivery used)
  - ➤ Reduced HM training requirements
  - ➤ Reduced HM-related disability claims
  - ➤ Reduced fines and penalties
  - ➤ Reduced HM loss/waste from expired shelf-life items and purchase of unauthorized new HM line items.
- Compliance benefits
  - ➤ Reduced HM point sources (e.g., no hoarding HM in personal lockers)
  - ➤ Reduced HM spills, releases, and associated cleanups
  - ➤ Reduced safety hazards and associated risks

- Reduced OSHA citations
- Reduced environmental compliance citations (e.g., notice of violation)
- Health care (e.g., HM exposure) and personal protective equipment tracking
- Online availability of material safety data sheets (MSDS)
- Proper container labeling
- More efficient and effective hazard communication (HAZCOM)
- Detailed HM tracking by manufacturer and chemical composition
- Automated, continuous HM inventory capability to facilitate environmental reporting (e.g., Emergency Planning and Community Right to Know Act [EPCRA])
- Facilitates inspection and policy enforcement.

Appendix B
Summary Table of USAREUR FY98 HW Disposal by ASG

Table B-1. Hazardous Waste Disposal Costs for the Army (FY98)

Hazardous Waste	6th ASG	26th ASG	98th ASG	100th ASG	104th ASG	Total USAREUR
Oil Contaminated Solids	$2,379.42	$53,190.35	$43,465.51	$35,163.66	$106,394.19	$240,593.13
Gas Compressed Cylinders	87,795.46	66,841.60	20,726.66	2,907.85	22,103.30	200,374.87
Contaminated Soil (other than oil)	.00	182,609.47*	.00	.00	6,199.05	188,808.52
Liquid Paint Cont. With Non-Halogenated Solvent	23,967.76	40,018.43	19,501.47	8,704.86	69,870.59	162,063.11
POL Products	1,628.54*	20,347.80	36,334.90*	43,528.91*	22,842.09*	124,682.24
Old Medicines	3,188.69	31,130.26	2,071.00	88.71	73,118.73	109,597.39
PCB Contaminated Debris	10,860.32	50,106.51	20.59	.00	46,770.87	107,758.29
Lithium Batteries	18,490.56*	18,633.94	14,768.91	17,985.39*	29,085.47	98,964.27
Ethylene Glycol	988.24	19,018.17	22,242.33	17,332.37	28,683.75	88,264.86
Battery Acids Used and Unused	70.59	1,352.67*	2,991.04*	1,591.87	58,480.23	64,486.40
Containers (Hazardous Materials)	679.33	8,117.68	10,322.85	14,158.02	28,939.38	62,217.26
Wood or Debris (cont. with pesticides)	.00	44,276.19	.00	13,324.07	.00	57,600.26
Ferrous Metal Container with Harmful Residue (Aerosol)	1,516.30	25,829.46	4,920.04	3,057.98	8,622.83	43,946.61
Plastic Container with Harmful Residue	541.58	3,970.63	9,048.00	6,759.90	14,986.99	35,307.10
Asbestos (Friable)	3,977.91	11,264.25	243.87	.00	17,314.23	32,800.26
Photographic Wastes	3,327.37	10,076.86	4,809.34	2,475.88	11,578.60	32,268.05
Pesticides	34.94	6,290.97	6,556.10	1,484.82	16,596.56	30,963.39
Non-Halogenated Solvents	1,704.28	17,837.02	874.66	467.99	8,848.46	29,732.41
Petroleum Waste	2,326.46	1,040.34	3,533.83	15,738.71	4,941.74	27,581.08
Cleaner and Compounds	47.71	6,918.11	42.82	.00	15,507.19	22,515.83
Fluorescent Light Tubes	1,776.45	6,959.02	5,636.10	2,968.46	4,726.37	22,066.40
Bleaching Products	2,659.61	4,344.86	3,991.59	366.63	8,934.38	20,297.07
Glues/Adhesives	163.21	5,298.98	11.89	9.45	12,708.67	18,192.20
Oxides	18.01	8,869.67	906.86	2,442.11	3,972.10	16,208.75
POL Contaminated Filters	911.85	5,419.46	2,576.79	4,281.01	1,991.76	15,180.87
PCB Transform-ers/Capacitors	.00	126.98	271.91	.00	14,244.75	14,643.64

Table B-1. Hazardous Waste Disposal Costs for the Army (FY98) (continued)

Hazardous Waste	6th ASG	26th ASG	98th ASG	100th ASG	104th ASG	Total USAREUR
Transportation of Hazardous Waste	.00	1,988.95	2,634.26*	211.76	8,547.56	13,382.53
Fly Ash (Contaminated with Either Cd, Pb, etc.)	.00	13,300.63	.00	.00	.00	13,300.63
Fire Extinguisher Residue	135.93	7,129.70	983.88	2,469.18	2,552.06	13,270.75
DS2 (Alphatic Amines)	701.95	4,813.85	1,370.44	.00	6,345.03	13,231.27
POL Waste Cont. With PCBs	64.53	7,695.23	874.80	2,243.38	2,149.19	13,027.13
Coloring Agents	.00	2,667.86	.00	250.61	9,613.80	12,532.27
Halogenated Solvent Contaminated Debris	.00	11,123.75*	.00	.00	.00	11,123.75
120-Liter Containers	4,663.69	552.48	96.69	2,856.34	2,794.56	10,963.76
Oil/Oil Sludge Removed for Separator or Tank	67.08	7,728.68	330.27	813.70	916.01	9,855.74
Tricresyl Phosphate	.00	.00	.00	.00	7,791.40	7,791.40
Photographic Cleaners	.00	168.88	16.44	.00	7,258.07	7,443.39
Gases in Cartridges	.00	3,137.16	680.92	1,941.45	1,623.66	7,383.19
Wash Waters	.00	258.64	.00	4,031.04	2,694.90	6,984.58
Sulfuric Acid	55.45	1,139.76	190.07	.00	5,551.39	6,936.67
Reimbursement for Recycling Fees	532.93	.00	69.06	.00	5,603.02	6,205.01
Disinfectants	364.00	.00	5,276.67	.00	.00	5,640.67
Halogenated Solvents	23.65	1,624.37	1,345.92	.00	2,321.89	5,315.83
Ferrous Metal Container with Harmful Residue (Non-Aerosol)	.00	3,155.47	.00	.00	1,069.78	4,225.25
Salts (high soluble)	.00	3,276.50	.00	.00	105.88	3,382.38
Desiccant	.00	323.82	.00	.00	2,751.67	3,075.49
Chlorofluorocarbons	.00	783.98	.00	.00	2,054.06	2,838.04
Aerosols (Non-Regulated)	.00	2,775.00	.00	.00	.00	2,775.00
Mercury Containing Residue	.00	976.14	772.46	213.66	792.56	2,754.82
HIN Not Found	.00	1,796.81	.00	.00	372.81	2,169.62
Methanol	.00	737.84	736.07	.00	105.88	1,579.79
Blasting Booth Dust	.00	8.51	744.04	.00	799.03	1,551.58
Sodium Chloride	.00	1,267.70	.00	.00	105.88	1,373.58
Fixer Bath	.00	1126.31	.00	.00	.00	1,126.31
Polyurethane Waste	.00	.00	.00	.00	991.71	991.71
Developers	.00	928.20	.00	.00	.00	928.20
Non-Ferrous Container with Harmful Residue	.00	670.83	.00	180.33	29.81	880.97
Caustic Liquids	38.19	299.53	57.29	.00	85.47	480.48
Halogenated Solvent Sludge	.00	273.86	77.79	.00	105.88	457.53
Activated Carbon	.00	311.72	.00	.00	76.22	387.94
7 Cubic Meter Containers (Rental)	.00	348.38	.00	.00	.00	348.38
Ferric Chloride	.00	155.85	.00	.00	105.88	261.73
Silica and Quartz Waste	.00	68.12	.00	.00	28.34	96.46

Table B-1. Hazardous Waste Disposal Costs for the Army (FY98) (continued)

Hazardous Waste	6th ASG	26th ASG	98th ASG	100th ASG	104th ASG	Total USAREUR
Corrosive - Small Container	.00	.00	.00	.00	.00	.00
Ferrous Metal Container with Oil Residue	.00	.00	.00	.00	.00	.00
Hazardous Chemical Containers	.00	.00	.00	.00	.00	.00
Salts	.00	.00	.00	.00	.00	.00
Salts (low soluble)	.00	.00	.00	.00	.00	.00
Toxicity - Small Container	.00	.00	.00	.00	.00	.00
	$175,701.99	$732,504.19	$232,126.13	$210,050.10	$712,805.68	$2,063,188.09

Source: Ms. Dannette Taylor, Defense Reutilization and Marketing Service International, Wiesbaden, Germany, August 1999.

* indicates an estimated value.

Appendix C
Overview of Current USAREUR HM/HW Management Processes

INTRODUCTION

The initial step in conducting this study was to develop a comprehensive "process blueprint" or flowchart of the entire USAREUR logistics system as it relates to HM life-cycle management. The processes we evaluated included HM sustainment, excess HM management and disposal, and HW management and disposal. This appendix provides a more detailed discussion of those processes as they are currently managed, with emphasis on key process issues that must be addressed to ensure that HMs are controlled more efficiently and cost-effectively in the future.

HAZARDOUS MATERIAL SUSTAINMENT PROCESS

General

HM sustainment refers to the overall process used to procure HM items and distribute them to the end user. The current USAREUR process for HM sustainment is shown in Figure C-1.

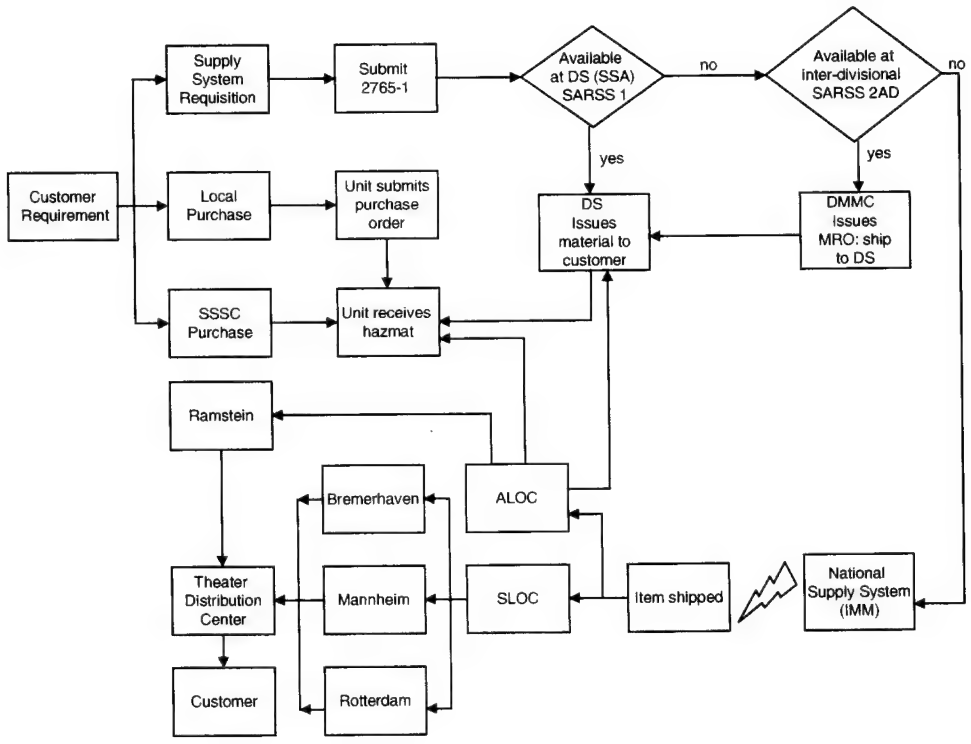
The HM sustainment process begins when a customer identifies a requirement for HMs. The customer has three options for satisfying that requirement: purchasing the material at the self-service supply center (SSSC), if available; purchasing the material locally; or submitting a requisition to the national supply system.

Self-Service Supply Center

The SSSC is the most convenient and quickest method for obtaining needed HM supplies. The SSSC stocks approximately 134 hazardous materiel items, including recurring-use items such as cleaning supplies, tools, and batteries.[1] If an organization requires an item stocked by the SSSC and has sufficient funds, an authorized individual from the organization simply buys the item, using a signature card identifying the organization's account number and signature authority.

[1] See Appendix G for a complete listing of these items.

Figure C-1. USAREUR Hazardous Material Sustainment Process



There are no other controls in place to restrict access to HM items through the SSSC.[2]

Local Purchase

If an item is not available through the SSSC or the supply system, or if the item is required in a more urgent time frame than the supply system can accommodate, an organization may procure the item from the local economy. If a blanket purchase agreement (BPA) has been established for the organization with a vendor that supplies the needed materiel, the organization submits a purchase order against the BPA. Alternatively, the organization may use a credit card to obtain the needed materiel.

As with SSSC purchases, there are few restrictions or controls on HM items that are purchased locally, except that approval must be obtained when the cost of a single item exceeds $25,000. Additionally, some supply support activities (SSAs) require that they review and approve local purchase requests before the items are procured.[3]

[2] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, August 1999.

[3] *Ibid.*

Supply System Requisition

Organizations are authorized to stock certain Class IX and Class II items identified by a prescribed load list (PLL). When the organization consumes an item from its PLL, it manually prepares a requisition (DA Form 2765-1), or the Unit Level Logistics System (ULLS) automatically generates a request for supply through a direct interface to SARSS-1 at the direct support level. SARSS-1 is located at non-divisional battalions, main support battalions, forward support battalions, separate brigades, and Armored Cavalry Regiments SSAs.

If the material is on hand at the direct support level, it is issued from the authorized stockage list (ASL) to the requesting organization. If it is not on hand, SARSS-1 generates a requisition (DA Form 2765-1) through a direct interface to SARSS-2AD. SARSS-2AD operates in Materiel Management Centers (MMCs) at the division, separate brigades, and armored cavalry regiments. SARSS-2AD maintains a custodial Availability Balance File (ABF), which is updated by SARSS-1. The ABF provides the MMC with asset visibility for all SARSS-1 activities under its control.[4]

If the requisition can be filled by assets located at a SARSS-1 activity under the control of the MMC, the MMC issues a materiel release order (MRO) to that activity, directing it to ship the needed material to the direct support SSA that generated the requisition. The SSA then issues the material to the organization that requires it.

If the requisition cannot be filled by SARSS-2AD, it is passed to the national supply system. Material provided by the national supply system is shipped by air or sea lines of communications (ALOC/SLOC). If the material is shipped by ALOC, it may be delivered to the theater airport at Ramstein, to the SSA at the direct support (DS) level, or directly to the organization that requires the material. If the material is delivered to Ramstein, it is routed through the Theater Distribution Center (TDC) to the DS SSA. If the material is shipped by SLOC, it is delivered to one of three surface ports—Bremerhaven, Mannheim, or Rotterdam. From there, the material is routed through the TDC to the DS SSA. The DS SSA issues the material to the organization requiring it, and the process is complete.[5]

As with the SSSC and local purchase options, there are issues of concern associated with HM procurement through SARSS. First and foremost, any requisitioning organization can procure HMs through the system with little to no restriction, simply by submitting a requisition (regardless of whether the organization has a valid requirement for the item). In addition, organizations can purchase only the prescribed unit of issue (e.g., 5-gallon can), which may be much larger than the desired unit of use (e.g., quart can). Lastly, the cross-leveling process used does

[4] Source: Mr. Martin Jennings, Reserve Storage Activity Kaiserslautern, Germany, August 1999.

[5] Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, August 1999.

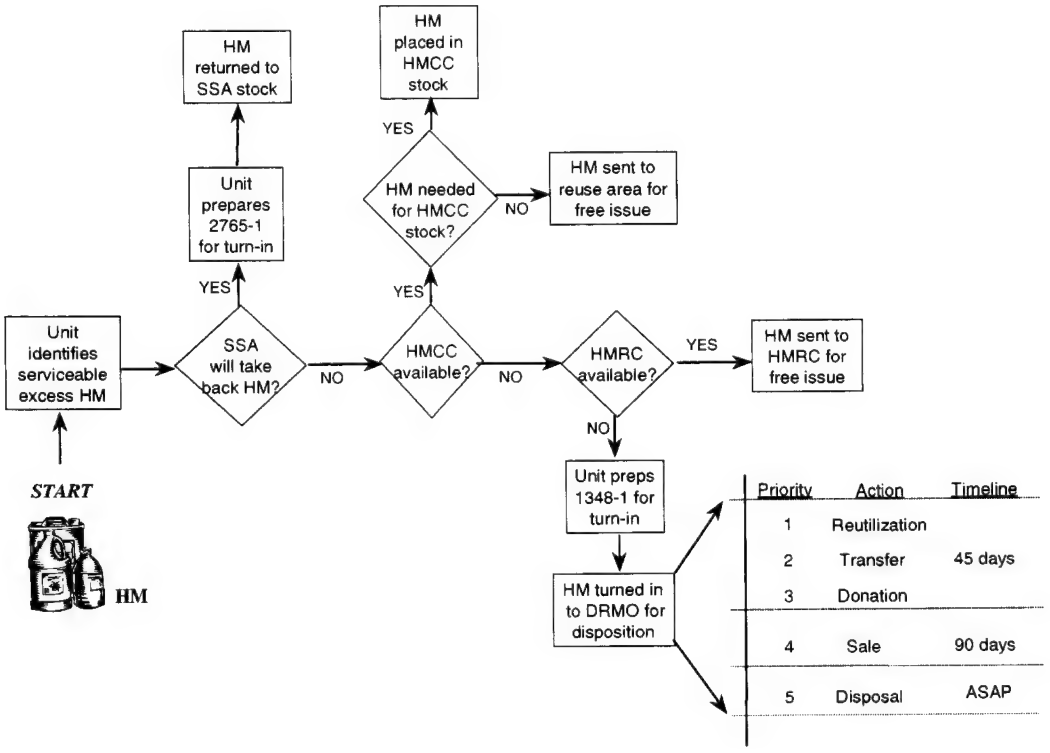
not have visibility over serviceable excess HMs that may be available in DRMO or HMRC stocks.[6] As a result, organizations often purchase HMs that are excess to requirements—and eventually must dispose of them as HW, at substantial cost.

EXCESS HAZARDOUS MATERIAL MANAGEMENT AND DISPOSAL PROCESS

General

The current process for managing excess (but serviceable) HMs within USAREUR is shown in Figure C-2.[7]

Figure C-2. USAREUR Process for Excess HM Management and Disposal



Note: Depicts general process flows only; actual processes can and do vary from one organization to another.

[6] Source: LTC(P) Palmer, HQ, USAREUR, Maintenance Policy, November 1999.

[7] Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials Kaiserslautern, Germany, Evaluation of the Supply System*, January 1996.

Under ideal circumstances, organizations should be issued and store only the quantities of HMs that are required to meet immediate (i.e., 30 days or less) requirements. This protocol helps to reduce build-up of on-hand stocks and the likelihood that otherwise serviceable HMs would exceed allowable shelf-life restrictions, thereby requiring disposal as HW.

Turn-in to Supporting SSA

When a tactical unit or other supported organization identifies excess but serviceable HM items, the first (and preferred) course of action is simply to return the unopened HM to the supporting SSA for restock and subsequent reissue to another authorized user. This procedure not only saves the cost of disposing of the HM as a HW; it also saves the cost of requisitioning new HMs.

Although this procedure is required by AR710-2,[8] we noted during our field visits that more often than not, SSA personnel refuse to accept returns of serviceable excess HMs. Beyond the fact that accepting such returns might create an overstock situation at the SSA, there appears to be no logical reason for this denial (unless of course, SSA personnel simply do not want to be bothered with processing the HMs, or staff shortages preclude them from doing so). As a result, units are simply assigning a Code H designator to the HM (indicating it is unserviceable) and then turning it in to the local DRMO for disposal as the easiest way to deal with the problem.[9] Once an item is coded H by the unit, DRMO cannot change it, even if they know the item is in fact serviceable.

This unacceptable situation should receive immediate command attention. HQ, USAREUR, should take immediate action to ensure that the turn-in policy mandated by AR710-2 is consistently applied and strictly enforced.

Turn-in to Supporting HMCC

If a serviceable HM item cannot be returned to the supporting SSA, the next recourse available to the unit would be to turn in the item to the local HMCC. We note, however, that there is only one HMCC in operation (at KIC). If the HMCC normally stocks the HM item and is currently below its authorized stockage level, it will accept the HM, return it to stock, and ultimately reissue it to another authorized user. If the HM item would result in the HMCC holding an excess amount to authorized levels, the item would be transferred to the HMCC reuse area for subsequent free issue. Under this procedure, no HM is turned in to DRMO as Condition Code H.[10]

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[8] Army Regulation 710-2, *Inventory Management Supply Policy Below the Wholesale Level, Section VII, Hazardous Materials Management Program*, 31 October 1997.

[9] Source: HMRC Staff, Wuerzburg, Germany, November 1999.

[10] Source: Ms. Lisa Smith, Chief, Environmental Office, 26th ASG, DPW, August 1999.

Turn-in to Supporting HMRC

If no HMCC is available and a serviceable HM item cannot be returned to the supporting SSA, the only other option other than disposal would be turn-in to the supporting HMRC. As with the HMCC, we note that there is only one HMRC in operation—at Wuerzburg—which supports only the 98th ASG. The HMRC at Wuerzburg will only accept unopened, serviceable HM items for stock and reuse.[11] Once stocked, the HMRC will reissue the HM to any authorized user at no cost. Again, this procedure saves the cost of disposal as HW, as well as the cost of procuring new HMs.

Turn-in to Supporting DRMO

Having exhausted the foregoing alternatives for restock and reuse of serviceable HM, the unit would have no option remaining other than to turn in the excess HM to the supporting DRMO for ultimate disposition. Generally, the DRMO will make every attempt to reuse, transfer, or otherwise donate the HM to another user within 45 days of receipt. If that cannot be accomplished, the DRMO will then try to sell the HM to any party that is willing to make the purchase (including local nationals and private commercial firms). This sale normally will be made within 90 days of turn-in. If attempts to reuse, transfer, donate, or sell the HM fail, the DRMO will then dispose of it as HW as soon as possible after the close of the 90 day period.[12] The unit that originally turned in the HM will then be charged for the cost of disposal.[13]

Previous studies have shown that as much as 65 percent of the serviceable HM turned in to DRMOs ultimately is disposed as HW.[14] A principal reason for DRMOs' inability to reuse or reissue serviceable HM is lack of visibility during the logistics cross-leveling process. Currently, requisitioning organizations only have visibility over HM stocks that are directly tied to SARSS (generally at the SSA level and higher). As a result, they are not routinely aware of serviceable excess that might be available through the DRMO. A simple solution to this problem that should be pursued would be to place a SARSS-1 box at each DRMO (and at the HMCC/HMRC as well) to ensure the visibility of available HM items.

[11] Source: HMRC Staff, Wuerzburg, Germany, November 1999.

[12] The 90-day limit is a CONUS requirement that also has been imposed OCONUS; this time limit should be extended as long as sufficient storage space is available.

[13] Source: Ms. Dannette Taylor, DRMS-I, Wiesbaden, Germany, August 1999.

[14] Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials Kaiserslautern, Germany, Evaluation of the Supply System*, January 1996.

HAZARDOUS WASTE MANAGEMENT AND DISPOSAL PROCESS[15]

General

Effective management and disposal of HW presents a unique challenge to USAREUR, given the diversity of tactical and non-tactical organizations it supports and their wide geographical dispersion across Europe. Generally, the HW disposal process is managed under contract to the Defense Reutilization and Marketing Service-International (DRMS-I), a subordinate command of the DLA that is based in Wiesbaden. The current process for managing HW disposal is shown in Figure C-3.

The process begins with the preliminary identification of HW disposal requirements by each of the 18 BSBs. The BSBs normally estimate the quantity of HW to be disposed by type. Each distinct waste stream (e.g., lithium batteries, used antifreeze) is assigned a unique hazardous item number (HIN) and/or contract line item number (CLIN). The BSB estimates are forwarded to DRMS-I, which then establishes 12- to 18-month support contracts with local HW disposal contractors. Care is taken to ensure that each unique waste stream has an authorized disposal contractor assigned.

Preparing and Processing Requests for Turn-in (DD Form 1348-1)

Once the broad disposal contracts are in place, each DPW prepares a separate Department of Defense (DD) Form 1348-1 (Request for Issue or Turn-in) for each hazardous waste stream and forwards it to the servicing DRMO. The purpose of the DD 1348-1 is to estimate the total quantity of HW expected to require disposal over the next 4 to 6 months. For BSBs that use HOTS, the data are simply entered into the system and transmitted to the DRMO via a Web-based application.[16]

Upon receipt of the DD 1348-1 data, the DRMO enters the information into the Base Operations Supply System (BOSS), which results in the commitment of BSB/ASG funds to the disposal process (for individual nonrecurring turn-ins of HW or expired HM, the unit prepares a DD 1348-1 and takes it to the DPW for signature before sending it to the DRMO). DRMS-I then issues DD 1155 delivery orders to activate the HW disposal contracts and assigned contractors. This action formally obligates DRMS-I funds to pay contractors as HW is picked up and disposed.

[15] Source: Ms. Lisa Smith, Chief, Environmental Office, 26th ASG, DPW, October 1999.

[16] This application is under development.

HW Collection and Disposal

Two HW disposal alternatives generally are available to supported organizations: direct removal and turn-in. Under the direct removal scenario, HW is generated during the course of normal operations and has been anticipated through establishment of a contract for specific CLIN(s), as described above. Under the turn-in alternative, a unit generates a waste for which the supporting BSB has not established a contract (i.e., generation of the HW was not anticipated). In this instance, the unit will prepare a DD 1348-1 and take it to the DPW for signature. The DD 1348-1 will then be forwarded to DRMS-I for issuance of a DD 1155 delivery order. The supporting DRMO then enters the delivery order into BOSS and arranges for pickup and disposal of the waste.

The actual procedure for collecting and disposing of HW varies from one organization to another, depending on site-specific requirements. In some instances, units store HW on site (e.g., unit motor pool) and simply call the supporting HW disposal contractor, which picks up the HW and disposes of it. In other instances, pre-designated HW collection points are established. As units generate HW, they transport it to the collection points and drop it off with the disposal contractor (which also operates the collection point). The contractor then disposes of the HW as it accumulates, in accordance with host nation requirements. In each instance, the contractor issues a copy of the HW manifest and disposal certificate to the generating BSB/DPW as appropriate.

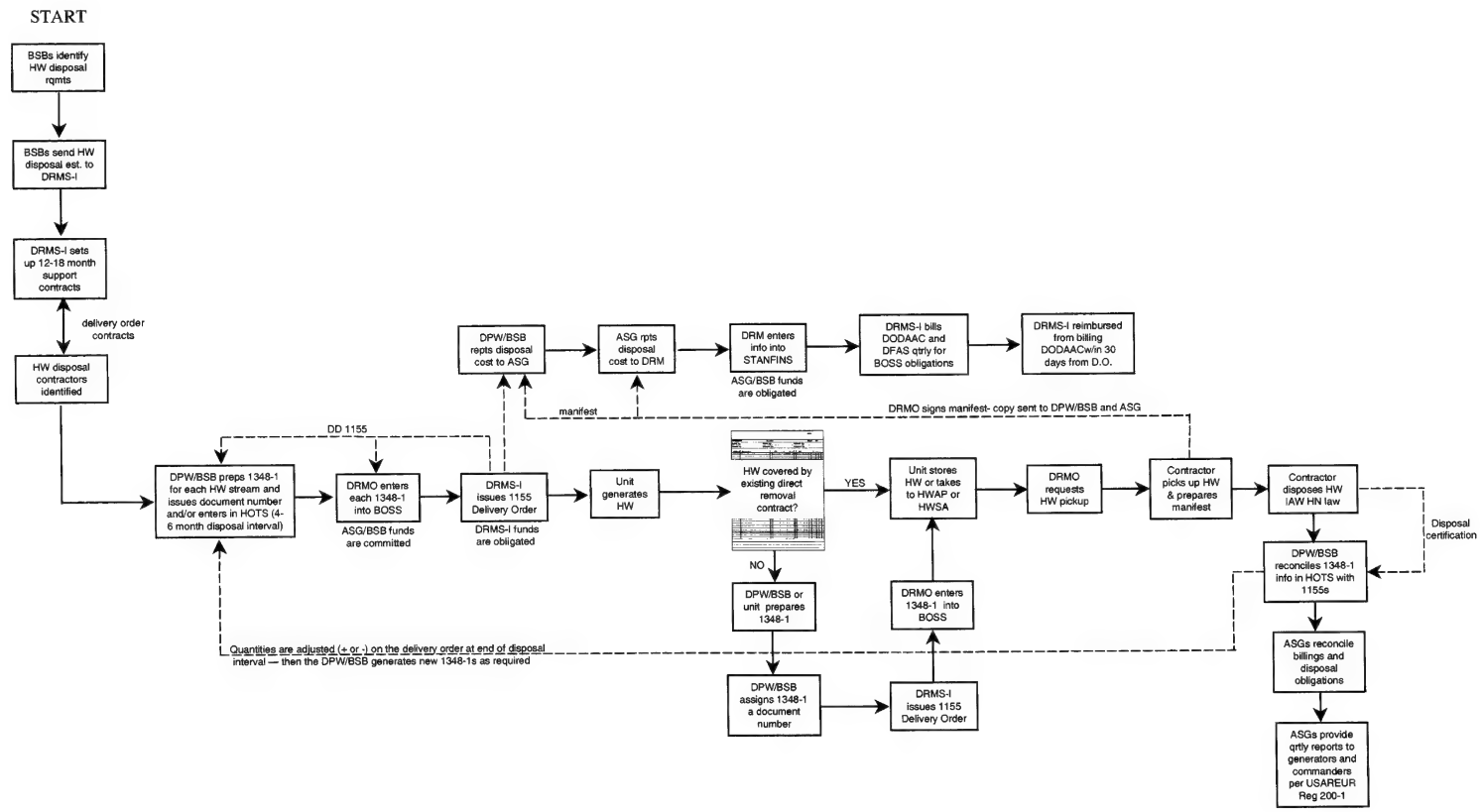
As wastes are disposed, the BSB/DPWs reconcile DD 1348-1 information with DD 1155 delivery orders. At the end of the disposal period (4 to 6 six months), quantities are adjusted (up or down) on the delivery orders as required. The BSB/DPW then generates new DD 1348-1s, and the disposal cycle begins again.

HW Disposal Accounting[17]

From an accounting standpoint, the generating BSB/DPW will report disposal obligations and costs to the ASG after issuance of the DD 1155 delivery order by DRMS-I. The ASG then reports the transactions to the supporting Director of Resource Management (DRM). The DRM enters the obligations into the Standard Army Finance System (STANFINS), which formally obligates the generating BSB/ASG funds for waste disposal. To complete the accounting cycle, DRMS-I bills each BSB/ASG DoD Activity Accounting Code (DODAAC) and the Defense Finance and Accounting Service (DFAS) on a quarterly basis for all obligations that have accumulated in BOSS. DRMS-I is then reimbursed by each billed DODAAC within 30 days of issuance of the delivery order.

[17] Source: Ms. Dannette Taylor, DRMS-I, Wiesbaden, Germany, August 1999.

Figure C-3. General USAREUR HM/HW Management and Disposal Process



Note: Depicts general process flows only; actual processes can and do vary from one organization to another.

Appendix D
Summary of Study Data Collection Activities

GENERAL

The results of this study are based on a comprehensive review of applicable documentation related to the USAREUR HM/HW management program, as well as personnel interviews conducted during two site visits. Specific data collection activities are detailed in the following sections.

Documentation Reviewed

- Army Regulation 710-2, *Inventory Management Supply Policy Below the Wholesale Level*, 31 October 1997
- Draft USAREUR Regulation 710-2, *Supply Policy Below the Wholesale Level*, undated
- Army Regulation 200-1, *Environmental Protection and Enhancement*, 21 February 1997
- USAREUR Regulation 200-1, *USAREUR Environmental Quality Program*, 9 December 1993
- *USAREUR Pollution Prevention Plan*, July 1998
- *USAREUR Pollution Prevention Opportunity Assessment*, July 1998
- Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials, Kaiserslautern, Germany, Evaluation of the Supply System*, January 1996
- Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials, Kaiserslautern, Germany, Inventory of Hazardous Materials and Waste*, February 1996
- Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials, Kaiserslautern, Germany, Feasibility/Cost Benefit Analysis*, May 1996

- Science Applications International Corporation, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd Base Support Battalion, Mannheim, Germany, Inventory of Hazardous Materials,* March 1997

- Science Applications International Corporation, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd Base Support Battalion, Mannheim, Germany, Feasibility/Cost Benefit Analysis,* April 1997

- Science Applications International Corporation, *Technical Study and Implementation of Consolidation and Tracking of Hazardous Materials, 21st TAACOM, Kaiserslautern Army Depot, Germany, Implementation Plan,* October 1997

- Science Applications International Corporation, *Technical Study for the Consolidation and Tracking of Hazardous Materials at 293rd Base Support Battalion, Mannheim, Germany, Evaluation of the Supply System,* December 1997

- Army Concepts Analysis Agency, *Assessment of Logistics and Cost for Hazardous Materials Management Implementation (ALCHMMI) Study,* October 1996

- HQ, USAREUR Information Paper, *Hazardous Material (HAZMAT) Management at the Unit Level,* March 1999

- HQ, USAREUR Information Paper, *Hazardous Material (HAZMAT) Management at the Supply Support Activity (SSA),* June 1999

- Final Governing Standards for Germany, Italy, Belgium, and Netherlands

- Various briefing slides, data sets, and other information (hard copy and telephonic) provided by USAREUR staff offices.

Sites Visited and Personnel Interviewed

- HQ, USAREUR DCSENG/DCSLOG (Heidelberg)
  - ➤ Dr. Kurt T. Preston
  - ➤ Ms. Dawn LaFalce
  - ➤ BG Mitchell Stevenson
  - ➤ Ms. Modell Plummer
  - ➤ COL Wright

- ➤ Mr. Bill Oldaker
- ➤ LTC(P) Chambers

- ◆ Hazardous Material Control Center and Reserve Supply Activity (Kaiserslautern)
  - ➤ Mr. Jerry Boggess
  - ➤ MAJ Parker
  - ➤ Mr. Martin Jennings
- ◆ 26th Area Support Group (Heidelberg)
  - ➤ Ms. Lisa Smith
  - ➤ Ms. Veronica Henzi
  - ➤ Mr. Klaus Fraenger
- ◆ Defense Reutilization and Marketing Service—International (Wiesbaden)
  - ➤ Ms. Dannette Taylor
  - ➤ Mr. Steve Perez
- ◆ 200th TSCMMC and ACSLOG (Kaiserslautern)
  - ➤ Mr. Roger L. Davis
  - ➤ LTC McMahon
  - ➤ Mr. Bob Harrington
- ◆ 574th Supply Support Activity (Mannheim)
  - ➤ CW2 John Schafer
  - ➤ Mr. Nice
- ◆ 701st Maintenance Battalion (Kitzingen)
  - ➤ LTC Paul Wentz
  - ➤ CPT Bill Mizell
  - ➤ 1LT Stacy Halgus

- Hazardous Material Reuse Center (Wuerzburg)
  - Mr. Ray Stead
  - Mr. R. Collins
- HQDA, ODEP/DCSLOG (Pentagon)
  - Mr. Bob Schroeder
  - Ms. Connie Van Brocklin
  - Mr. Dave Lyon
  - COL Larry Matthews
- TRADOC/CASCOM (Fort Lee, VA)
  - COL Tom Edwards
  - LTC Chastine (Product Manager, GCSS-A)
  - Mr. Pat McCharque (Product Manager, ULLS)
  - Mr. Andy Kellerman (Product Manager, SARSS)

Appendix E
Listing of 19 Federal Supply Classes Containing HM Items

Table E-1. Listing of 19 Federal Supply Classes Containing HM Items

Federal Supply Class	Description
6135	Batteries, Primary
6140	Batteries, Secondary
6750	Photographic Supplies
6810	Chemicals
6820	Dyes
6830	Gases, Compressed and Liquid
6840	Pest Control Agents and Disinfectants
6850	Miscellaneous Chemical Specialties
7930	Cleaning and Polishing Compounds
8010	Paints, Varnishes and Related Products
8030	Preservatives and Sealing Compounds
8040	Adhesives
8720	Fertilizers
9110	Fuels, Solid
9130	Liquid Propellants and Fuels, Petroleum
9135	Liquid Propellant Fuels and Oxidizers
9140	Fuel Oils
9150	Oils and Greases, Cutting, Lubricating and Hydraulic
9160	Miscellaneous Waxes, Oils and Fats

Source: Mr. Bill Eggers, Program Executive Office, Standard Army Management Information Systems, Ft. Belvoir, VA, April 1999.

Appendix F
Listing of Unique HM Items Requisitioned in FY99 Through SARSS

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6135	010363495	BATTERY,NONRECHARGE	$4,462,372.15	63049
6135	010905365	BATTERY,PRIMARY,LIT	$3,853,271.28	78079
6135	012146441	BATTERY,NONRECHARGE	$1,044,389.03	13883
6135	014407774	BATTERY,NONRECHARGE	$638,895.50	4354
6135	010882708	BATTERY,DRY	$463,267.16	14608
6135	009857845	BATTERY,NONRECHARGE	$375,414.45	91449
6135	009002139	BATTERY,NONRECHARGE	$346,395.48	36163
6135	008357210	BATTERY (1) NONRECH	$271,916.09	41205
6135	014475082	BATTERY,NONRECHARGE	$229,406.96	3826
6135	004503528	BATTERY,NONRECHARGE	$116,578.27	3241
6135	013511131	BATTERY,NONRECHARGE	$83,204.16	37700
6135	006431310	BATTERY,NONRECHARGE	$77,165.64	4420
6135	010342239	BATTERY,NONRECHARGE	$75,442.89	2765
6135	014478948	CASE,BATTERY ASSEMB	$74,693.34	654
6135	009857846	BATTERY,NONRECHARGE	$73,762.75	14919
6135	010882707	BATTERY,DRY	$61,255.09	1571
6135	012354168	BATTERY,NONRECHARGE	$59,379.30	2130
6135	008013493	BATTERY,NONRECHARGE	$51,424.92	684
6135	013018776	BATTERY,NONRECHARGE	$50,906.37	19133
6135	014389450	BATTERY,NONRECHARGE	$41,686.20	132
6135	012313498	BATTERY,NONRECHARGE	$38,891.60	178
6135	000738939	BATTERY,NONRECHARGE	$32,530.87	5575
6135	008357211	BATTERY, NONRECHARG	$31,987.40	4270
6135	013985922	BATTERY,NONRECHARGE	$31,357.04	9418
6135	014389447	BATTERY,NONRECHARGE	$30,479.22	62
6135	012169771	BATTERY,NONRECHARGE	$27,915.41	409
6135	008264798	BATTERY,NONRECHARGE	$27,829.03	7364
6135	010905364	BATTERY,PRIMARY,LIT	$27,061.50	921
6135	009260827	BATTERY,NONRECHARGE	$24,712.71	272
6135	010698575	BATTERY,PRIMARY	$21,101.08	572
6135	008380706	BATTERY,NONRECHARGE	$18,870.14	866
6135	013478895	CASE,BATTERY ASSEMB	$15,252.72	2
6135	014410402	BATTERY,NONRECHARGE	$10,856.64	48
6135	014387851	BATTERY,NONRECHARGE	$10,512.72	218
6135	014211052		$9,265.54	394
6135	004857402	BATTERY,PRIMARY	$7,609.70	1362
6135	013916469	BATTERY ASSEMBLY	$6,890.62	1
6135	012512095	BATTERY,NONRECHARGE	$6,043.62	824
6135	014217109	BATTERY ASSEMBLY	$5,382.00	9
6135	010714410	BATTERY ASSEMBLY	$4,464.00	18
6135	010151223	BATTERY,NONRECHARGE	$4,057.94	29
6135	013613886	BATTERY ASSEMBLY	$3,986.55	15
6135	014396229	BATTERY,NONRECHARGE	$3,640.00	28
6135	013702599	BATTERY,NONRECHARGE	$3,406.84	745
6135	013085688	BATTERY,NONRECHARGE	$3,082.60	856
6135	012774571	BATTERY,NONRECHARGE	$2,900.00	116
6135	014194985	BATTERY,NONRECHARGE	$2,607.12	24
6135	009268322	BATTERY,NONRECHARGE	$2,576.28	162
6135	011121699	BATTERY,NONRECHARGE	$2,494.36	388

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6135	008168253	BATTERY, NONRECHARG	$2,493.16	1259
6135	011103516	BATTERY, NONRECHARG	$2,414.00	100
6135	010946536	BATTERY (1) NONRECH	$2,339.26	77
6135	013431593	BATTERY ASSEMBLY	$1,665.00	6
6135	002950608	BATTERY,NONRECHARGE	$1,605.00	5
6135	002952619	BATTERY, NONRECHARG	$1,566.90	273
6135	011682944	BATTERY (1) NONRECH	$1,546.30	70
6135	013336101	BATTERY NONRECHARGE	$1,468.10	554
6135	000503280	BATTERY,NONRECHARGE	$1,421.59	1206
6135	007635793	BATTERY, NONRECHARG	$1,410.97	298
6135	006431309	BATTERY,NONRECHARGE	$1,219.21	272
6135	014503781	BATTERY,NONRECHARGE	$1,094.21	19
6135	013401983	BATTERY,NONRECHARGE	$1,024.86	31
6135	014559646	BATTERY,NONRECHARGE	$998.10	10
6135	008129039	BATTERY,NONRECHARGE	$981.67	335
6135	014303119	BATTERY,NONRECHARGE	$960.96	32
6135	014557947	BATTERY,NONRECHARGE	$958.08	6
6135	013699792	BATTERY,NONRECHARGE	$881.82	142
6135	009613603	BATTERY,NONRECHARGE	$724.20	68
6135	010271561	CASE AND CAP ASSEMB	$724.11	18
6135	014468310	BATTERY NONRECHARGEAB	$700.59	193
6135	012073490	HOOK,BATTERY BOX CO	$623.64	162
6135	012416115	BATTERY ASSEMBLY	$553.23	7
6135	011864010	BATTERY (1) NONRECH	$551.76	495
6135	012755350	COVER,BATTERY	$532.50	1
6135	011193439	COVER, BATTERY	$455.00	26
6135	002996918	BATTERY,NONRECHARGE	$451.44	228
6135	013601620	BATTERY ASSEMBLY	$443.01	3
6135	012108715	BATTERY,NONRECHARGE	$415.00	125
6135	013154328	BATTERY,NONCHARGEABLE	$366.12	18
6135	013791697	BATTERY,NONCHARGEABLE	$345.62	22
6135	008538670	BATTERY, NONRECHARG	$340.57	499
6135	011742469	BATTERYCABLE,KIT	$332.00	1
6135	008503177	BATTERY, NONRECHARG	$331.68	24
6135	014470950	BATTERY NONRECHARGEAB	$319.70	278
6135	009352589	BATTERY, NONRECHARG	$301.09	8
6135	012712205	RETAINER,BATTERY	$285.28	2
6135	012015858	BATTERY ASSEMBLY	$281.31	3
6135	011853614	BATTERY,NONRECHARGE	$275.52	3
6135	013756348	CASE,BATTERY ASSEMB	$235.88	1
6135	014468307	BATTERY NONRECHARGEAB	$229.40	100
6135	014468308	BATTERY NONRECHARGEAB	$191.45	155
6135	001201028	BATTERY, NONRECHARG	$180.24	24
6135	012961859	BATTERY,NONRECHARGEAB	$177.84	9
6135	001281632	BATTERY,NONRECHARGE	$177.52	4
6135	001648768	BATTERY, NONRECHARG	$166.08	2
6135	010703865	BATTERY,DRY	$162.78	2
6135	009735632	BATTERY,NONRECHARGE	$137.04	12
6135	010271563	RETAINER,CAP,BATTER	$126.32	164
6135	012821333	BATTERY,WET,PRIMARY	$99.00	1
6135	001000413	BATTERY, NONRECHARG	$84.84	32
6135	011109470	BATTERY (1) NONRECH	$83.75	125
6135	011048935	HOOK,BATTERY BOX CO	$71.50	26
6135	005786901	BATTERY,NONRECHARGE	$70.52	4
6135	011067740	BATTERY,NONRECHARGE	$70.29	99
6135	003344500	BATTERY,NONRECHARGE	$69.20	2
6135	013804396	CELL,BATTERY	$67.80	10
6135	001201032	BATTERY,NONRECHARGE	$65.52	4
6135	001648754	BATTERY,NONRECHARGE	$65.25	3
6135	000430021	BATTERY,NONRECHARGEAB	$63.80	290
6135	001201019	BATTERY, NONRECHARG	$62.88	12

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6135	001648775	BATTERY,NONRECHARGE	$57.63	3
6135	008010586	BATTERY, NONRECHARG	$57.25	5
6135	010372520	COVER	$54.00	9
6135	013204815	BATTERY,NONRECHARGE	$51.75	69
6135	001648753	BATTERY, NONRECHARG	$49.07	7
6135	013948087	BATTERY,NONCHARGABLE	$45.60	5
6135	001607159	BATTERY,NONRECHARGE	$32.49	3
6135	000500915	BATTERY,NONRECHARGE	$31.56	4
6135	001201016	BATTERY,NONRECHARGE	$30.05	5
6135	000870333	BATTERY,NONRECHARGE	$27.30	6
6135	002214719	BATTERY,NONRECHARGE	$21.18	2
6135	005426216	BATTERY (1) NONRECH	$20.40	10
6135	005578874	BATTERY,NONRECHARGE	$18.53	1
6135	014371307	CELL BATTERY	$17.25	3
6135	011098763	BATTERY,NONRECHARGE	$16.70	10
6135	011665042	BATTERY (1) NONRECH	$14.60	4
6135	012751034	BATTERY,NONRECHARGE	$14.02	2
6135	014470949	BATTERY NONRECHARGE	$13.45	5
6135	001648777	BATTERY,NONRECHARGE	$13.18	2
6135	013148415	BATTERY,NONRECHARGE	$12.36	12
6135	009718485	BATTERY,NONRECHARGE	$11.46	2
6135	005568318	BATTERY,NONRECHARGE	$10.77	3
6135	013442442	BATTERY,NONRECHARGE	$9.45	5
6135	014586441	BATTERY,NONRECHARGEAB	$9.00	9
6135	012682151	BATTERY NONRECHARGEAB	$6.80	4
6135	012460308	BATTERY	$2.70	5
6140	014311172	BATTERY,STORAGE	$8,857,433.76	109676
6140	014198187	BATTERY,STORAGE	$833,856.60	2848
6140	010898134	BATTERY,STORAGE	$369,718.52	376
6140	013742243	BATTERY,STORAGE	$222,210.30	2115
6140	010633918	BATTERY,STORAGE	$159,797.85	544
6140	000572553	BATTERY,STORAGE	$118,812.07	2189
6140	010429942	BATTERY STORAGE	$112,028.13	1553
6140	011342277	BATTERY ASSEMBLY	$97,401.44	103
6140	014469554	BATTERY,STORAGE	$88,054.66	567
6140	000572554	BATTERY STORAGE	$79,629.36	986
6140	012740835	BATTERY ASSEMBLY	$74,573.36	2312
6140	014198190	BATTERY,STORAGE	$70,153.77	813
6140	011141219	CELL,RECH(REG CAP)	$70,130.24	193
6140	012101964	BATTERY,STORAGE	$66,303.96	821
6140	011625234	TEMPERATURE,SENSOR	$58,055.00	346
6140	014198191	BATTERY,STORAGE	$55,970.37	777
6140	010464286	BATTERY,STORAGE	$55,899.12	132
6140	000593528	BATTERY,STORAGE	$54,725.90	710
6140	010321326	BATTERY,STORAGE	$52,135.04	975
6140	012119906	BATTERY,STORAGE	$48,918.33	24
6140	011868802	BATTERY,STORAGE	$43,047.84	12
6140	010514900	BATTERY,STORAGE	$42,593.51	626
6140	013071326	BATTERY ASSEMBLY	$40,456.72	28
6140	013809981	BATTERY,STORAGE	$30,772.16	723
6140	010565321	BATTERY,STORAGE	$29,648.70	395
6140	010733206	BATTERY,STORAGE	$29,527.02	62
6140	010461116	BATTERY,STORAGE	$29,069.84	23
6140	013708678	BATTERY,STORAGE	$25,384.60	10
6140	011232617	BATTERY,STORAGE	$25,009.06	217
6140	014198193	BATTERY,STORAGE	$24,464.82	326
6140	009281943	BATTERY,STORAGE	$22,386.00	91
6140	011752500	BATTERY,STORAGE	$21,832.00	82
6140	013809563	BATTERY,STORAGE	$17,880.92	458
6140	013809558	BATTERY,STORAGE	$16,167.81	414
6140	014198188	BATTERY ASSEMBLY	$15,972.24	12

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6140	012034912	BATTERY,STORAGE	$15,414.33	147
6140	010841460	BATTERY,STORAGE	$13,971.36	124
6140	008816887	BATTERY,STORAGE	$12,204.62	13
6140	010711443	BATTERY,STORAGE	$11,796.06	94
6140	014133926	BATTERY STORAGE	$11,613.33	303
6140	001909828	BATTERY, STORAGE	$11,503.15	126
6140	002501981	BATTERY,STORAGE	$11,230.27	109
6140	002148255	BATTERY,STORAGE	$11,127.39	97
6140	012502113	BATTERY,STORAGE	$11,107.03	77
6140	014198194	BATTERY,STORAGE	$10,977.40	46
6140	012518652	BATTERY,STORAGE	$10,965.40	218
6140	014133925	BATTERY STORAGE	$10,576.00	295
6140	014133928	BATTERY STORAGE	$9,943.74	258
6140	014133923	BATTERY STORAGE	$9,755.95	275
6140	013788232	BATTERY,STORAGE	$8,856.28	77
6140	012925065	BATTERY ASSEMBLY	$8,609.76	18
6140	001340850	BATTERY ASSY BB-501/U	$7,726.08	4
6140	010911536	BATTERY,STORAGE	$6,903.20	80
6140	010723125	BATTERY,STORAGE	$6,728.72	8
6140	013809984	BATTERY,STORAGE	$6,384.48	150
6140	010802886	CASE,BATTERY ASSEMB	$6,295.18	14
6140	009213670	BATTERY,STORAGE	$6,277.70	1430
6140	010316882	BATTERY,STORAGE	$6,181.92	111
6140	012925596	LEAD,STORAGE BATTER	$5,889.68	168
6140	010723124	BATTERY,STORAGE	$5,553.86	11
6140	010401774	BATTERY,STORAGE	$5,270.72	32
6140	013621212	CASE,BATTERY ASSEMB	$5,102.55	115
6140	011929404	BATTERY KIT,SERVICE	$4,826.46	102
6140	014387852	BATTERY,STORAGE	$4,266.00	90
6140	010863440	BATTERY,STORAGE	$4,069.45	5
6140	004548261	BATTERY ASSY BB-287	$4,062.48	6
6140	013840499	BATTERY, STORAGE	$4,005.60	30
6140	011568371	BATTERY BOX	$3,974.49	9
6140	013199617	STORAGE BATTERY	$3,802.21	1
6140	011133719	RETAINER,BATTERY	$3,557.15	138
6140	014187795	BATTERY STORAGE	$3,531.60	24
6140	012498842	BATTERY ASSEMBLY	$3,475.69	213
6140	011937683	LEAD,STORAGE BATTER	$3,287.53	168
6140	013314013	BATTERY,STORAGE	$3,156.12	11
6140	001110500	BATTERY,STORAGE	$2,846.16	24
6140	014133929	BATTERY CHARGER TABLE	$2,771.00	40
6140	013276170	FILLER CAP,BATTERY	$2,712.69	63
6140	010725608	BATTERY,STORAGE	$2,532.18	42
6140	010343136	BATTERY,STORAGE	$2,486.16	36
6140	011899868	RETAINER,BATTERY	$2,436.25	25
6140	011652165	BATTERY PACK	$2,426.65	211
6140	013745802	BATTERY,STORAGE	$2,330.31	27
6140	011333654	BATTERY ASSEMBLY	$2,274.60	20
6140	011056511	BATTERY,STORAGE	$2,234.12	98
6140	004519713	BATTERY,STORAGE	$2,026.78	4
6140	014002902	BATTERY, STORAGE	$2,015.00	26
6140	011592242	BATTERY ASSEMBLY	$2,009.76	48
6140	004496001	BATTERY,STORAGE	$2,005.02	1589
6140	013657743	BATTERY STORAGE	$1,988.42	92
6140	004316805	BATTERY,STORAGE	$1,972.08	216
6140	011238894	BATTERY,STORAGE	$1,928.85	11
6140	013935106	BATTERY,STORAGE	$1,889.00	5
6140	011937682	LEAD,STORAGE BATTER	$1,817.02	94
6140	011885113	RACK,BATTERY	$1,775.82	6
6140	011384921	BATTERY ASSEMBLY	$1,771.50	150
6140	011464437	RETAINER,BATTERY	$1,752.85	11

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6140	008514573	LEAD STORAGE BATTERY	$1,725.84	102
6140	010715070	BATTERY,STORAGE	$1,582.91	31
6140	004320490	BATTERY,STORAGE	$1,557.46	86
6140	010316881	BATTERY,STORAGE	$1,547.10	27
6140	012614977	BATTERY,STORAGE	$1,493.26	14
6140	010718560	BATTERY,STORAGE	$1,482.60	2
6140	014325109	BATTERY,STORAGE	$1,401.08	22
6140	013148243	LEAD,STORAGE BATTER	$1,381.30	70
6140	011748425	COVER,BATTERY BOX	$1,353.60	10
6140	013866124	LEAD,STORAGE BATTER	$1,344.62	5
6140	011394537	VENT TUBE,BATTERY	$1,341.30	99
6140	014331232	BATTERY,STORAGE	$1,339.50	5
6140	010316877	BATTERY,STORAGE	$1,320.31	19
6140	001909831	BATTERY,STORAGE	$1,299.24	12
6140	012516260	BATTERY BOX	$1,280.55	5
6140	010104079	LEAD,STORAGE BATTER	$1,122.98	47
6140	012661634	BATTERY,STORAGE	$1,072.46	2
6140	013473580	BATTERY,STORAGE	$1,062.36	36
6140	012916484	BATTERY,STORAGE	$992.08	2
6140	013747574	DEFLECTOR ASSEMBLY,	$984.45	1
6140	012329546	BATTERY,EXTERNAL	$923.31	9
6140	013227780	BATTERY,STORAGE	$895.95	15
6140	001793000	CONNECTOR,BATTERY	$825.44	14
6140	004345887	BATTERY,STORAGE	$806.24	16
6140	008929201	COVER,BATTERY BOX	$765.04	262
6140	012925124	LEAD,STORAGE BATTER	$744.66	21
6140	010495342	BATTERY,STORAGE	$720.14	1
6140	000817825	FILLER CAP,BATTERY	$698.40	240
6140	011116379	BATTERY,STORAGE	$674.49	46
6140	013901969	BATTERY,STORAGE	$637.54	12
6140	011179510	LEAD,STORAGE BATTER	$592.23	39
6140	011256073	BLOCK,SUPPORT,BATTE	$587.88	69
6140	011630978	VENTED-FILTER CAP	$582.00	200
6140	011566187	VENT TUBE,BATTERY	$565.75	33
6140	014572504	BATTERY,STORAGE	$513.20	8
6140	009840143	BATTERY,STORAGE	$509.30	10
6140	014331950	LEAD,STORAGE BATTER	$492.75	5
6140	011732976	LEAD,STORAGE BATTER	$483.22	2
6140	005416716	FILLER CAP,BATTERY	$480.72	24
6140	003162333	LEAD,STORAGE BATTER	$478.50	11
6140	010891070	BATTERY,STORAGE	$461.70	19
6140	011666589	BATTERY BOX	$448.06	1
6140	011947860	LEAD,STORAGE BATTER	$442.29	7
6140	011194092	PARTS KIT,BATTERY	$434.04	52
6140	011730038	HEATER,BATTERY	$415.26	2
6140	014136549	BATTERY,STORAGE	$409.97	1
6140	011701269	FILLER CAP,BATTERY	$409.95	27
6140	007385914	BATTERY,STORAGE	$409.02	102
6140	011024500	BATTERY,STORAGE	$395.46	117
6140	011264602	LEAD,STORAGE BATTER	$381.06	9
6140	014414272	BATTERY,STORAGE	$377.36	2
6140	001110508	BATTERY,STORAGE	$371.92	4
6140	011113882	BATTERY,STORAGE	$354.40	20
6140	012929718	LEAD,STORAGE BATTER	$351.78	13
6140	006434492	BATTERY FILLER, SYRI	$350.70	10
6140	012921883	RETAINER,BATTERY	$345.92	4
6140	013148414	BATTERY,STORAGE	$344.39	1
6140	010371064	BATTERY STORAGE	$339.65	5
6140	012758415	BATTERY,STORAGE	$338.96	2
6140	011747249	BATTERY,STORAGE	$321.48	4
6140	013511130	BATTERY,STORAGE	$313.42	2

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6140	006148849	RETAINER,BATTERY	$311.55	106
6140	011008246	VENT TUBE,BATTERY	$296.92	26
6140	011984197	RETAINER,BATTERY	$296.10	15
6140	010972001	LEAD,STORAGE BATTER	$289.90	2
6140	010707367	BATTERY,STORAGE	$285.49	40
6140	011256075	BLOCK,SUPPORT,BATTE	$282.70	110
6140	013295089	BATTERY,STORAGE	$278.25	3
6140	011029390	COVER,BATTERY	$271.95	1
6140	014411697	BATTERY,STORAGE	$271.80	4
6140	001226110	BATTERY,STORAGE	$269.92	4
6140	009840159	BATTERY,STORAGE	$260.61	7
6140	011256074	BLOCK,SUPPORT,BATTE	$259.82	70
6140	010906667	BATTERY,STORAGE	$259.32	6
6140	002278555	BATTERY,STORAGE	$253.88	2
6140	011732979	LEAD,STORAGE BATTER	$253.44	2
6140	012773956	FILLER CAP,BATTERY	$239.60	8
6140	005389984	BATTERY, STORAGE	$239.10	5
6140	011057022	LEAD,STORAGE BATTER	$236.06	22
6140	011087328	LEAD,STORAGE BATTER	$232.99	23
6140	006353824	BATTERY FILLER, GRAV	$232.84	28
6140	012059494	BATTERY,STORAGE	$232.63	43
6140	011556998	TRAY,BATTERY	$228.97	7
6140	008361283	BATTERY,STORAGE	$227.52	4
6140	008087325	BATTERY FILLER,SYRI	$220.65	93
6140	010450265	LEAD,STORAGE BATTER	$203.25	5
6140	012916443	BATTERY,STORAGE	$194.47	1
6140	004466758	BATTERY,STORAGE	$190.72	4
6140	013316066	BATTERY,STORAGE	$189.55	5
6140	014129128	BATTERY ASSEMBLY	$189.27	3
6140	011732978	LEAD,STORAGE BATTER	$183.33	3
6140	007522184	BATTERY FILLER,GRAV	$180.06	19
6140	011823379	RETAINER,BATTERY	$173.72	2
6140	014178062	LEAD,STORAGE BATTER	$165.76	1
6140	012176760	BATTERY,STORAGE	$158.08	2
6140	009840155	BATTERY,STORAGE	$137.70	2
6140	013393712	BATTERY STORAGE	$136.97	1
6140	011146623	LEAD,STORAGE BATTER	$136.80	4
6140	013064702	RETAINER,BATTERY	$135.49	1
6140	011302464	FILLER CAP,BATTERY	$132.80	8
6140	011631081	LEAD,STORAGE BATTER	$130.24	11
6140	000036096	BATTERY FILLER,SYRI	$130.00	5
6140	012208115	LEAD,STORAGE BATTER	$124.56	1
6140	007949959	BATTERY, STORAGE	$122.80	10
6140	004667172	BATTERY,STORAGE	$119.14	1
6140	013468316	BATTERY,STORAGE	$119.02	2
6140	003723174	BATTERY,STORAGE	$111.01	17
6140	013088412	COVER ASSEMBLY,BATT	$109.18	2
6140	011146622	LEAD,STORAGE BATTER	$108.45	3
6140	014524623	BATTERY,STORAGE	$107.48	2
6140	010101273	LEAD,STORAGE BATTER	$101.52	10
6140	011556997	TRAY,BATTERY	$100.47	3
6140	011947861	LEAD,STORAGE BATTER	$100.18	2
6140	013446198	LEAD,STORAGE BATTER	$94.69	1
6140	010368111	BATTERY,STORAGE	$93.18	3
6140	010375012	BATTERY,STORAGE	$86.90	11
6140	013901689	LEAD,STORAGE BATTER	$80.19	1
6140	009840068	BATTERY,STORAGE	$80.16	2
6140	003972662	BATTERY,STORAGE	$78.90	2
6140	001850736	BAR,BATTERY HOLDDOW	$78.13	1
6140	013901968	BATTERY,STORAGE	$77.61	1
6140	011907826	BATTERY,STORAGE	$76.84	1

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6140	001843415	BATTERY,STORAGE	$75.46	1
6140	011150858	LEAD,STORAGE BATTER	$72.84	3
6140	011082159	BATTERY,STORAGE	$68.24	4
6140	011556530	LEAD,STORAGE BATTER	$67.74	6
6140	000772444	VENT TUBE ASSEMBLY,	$57.60	9
6140	012019739	STEP,BATTERY BOX	$55.17	1
6140	011920397	RETAINER,BATTERY	$53.66	2
6140	011556531	LEAD,STORAGE BATTER	$53.27	7
6140	013875045	FILLER CAP,BATTERY	$52.48	32
6140	005026262	BATTERY,STORAGE	$51.34	2
6140	005389763	LEAD,STORAGE BATTER	$50.70	10
6140	013765826	LEAD,STORAGE BATTER	$50.53	1
6140	012017782	COVER,BATTERY RETAI	$49.52	2
6140	011821265	LEAD,STORAGE BATTER	$49.50	2
6140	014171756	LEAD,STORAGE BATTER	$48.00	2
6140	008446181	LEAD,STORAGE BATTER	$47.70	5
6140	012774486	LEAD,STORAGE BATTER	$43.67	1
6140	000213337	LEAD,STORAGE BATTER	$43.14	9
6140	001280081	LEAD,STORAGE BATTER	$41.94	2
6140	011676508	LEAD,STORAGE BATTER	$39.20	4
6140	011494810	BATTERY,STORAGE	$36.96	8
6140	008832055	BATTERY,STORAGE	$36.84	6
6140	008220397	BATTERY,STORAGE	$35.93	1
6140	011565326	RETAINER,BATTERY	$35.24	4
6140	004014956	BATTERY STORAGE	$31.67	1
6140	011732977	LEAD,STORAGE BATTER	$31.44	1
6140	011864432	VENT TUBE,BATTERY	$28.14	3
6140	007928294	LEAD,STORAGE BATTER	$21.22	4
6140	006763376	FILLER CAP,BATTERY	$17.80	20
6140	003081315	VENT TUBE, BATTERY	$16.62	2
6140	011179646	BATTERY,STORAGE	$15.46	1
6140	011592241	BATTERY,STORAGE	$14.58	2
6140	011902516	RETAINER,BATTERY	$7.88	1
6140	012068596	BATTERY HOLDER	$2.28	2
6140	013094661	BATTERY ASSEMBLY	$2.16	2
6140	007373211	CLAMP, BATTERY BOX	$1.28	1
6140	012101963	BATTERY,STORAGE	$0.00	12
6140	011345413	BATTERY,STORAGE	$0.00	3
6750	011473592	PICTURE PACK,RAPID	$35,220.06	3501
6750	011638799	PICTURE PACK,RAPID	$26,085.05	1301
6750	008687901	PICTURE PACK,RAPID	$10,626.51	748
6750	011544243	PICTURE PACK RAPID	$5,938.27	221
6750	014431166	PAPER,COPYING,STABI	$5,140.64	361
6750	008039435	PAPER	$3,288.00	20
6750	012793619	PICTURE PACK,RAPID	$2,847.10	142
6750	013830228	FILM PHOTOGRAPHIC	$2,283.00	700
6750	014281568	FILM,PHOTOGRAPHIC	$2,193.25	100
6750	013539720	FILM,PHOTOGRAPHIC	$1,875.60	441
6750	014528247	PICTURE PACK,RAPID	$1,825.26	174
6750	013534439	FILM,PHOTOGRAPHIC	$1,748.46	362
6750	013916536	PAPER,PHOTOGRAPHIC	$1,729.92	16
6750	014281566	FILM,PHOTOGRAPHIC	$1,638.75	575
6750	010228410	BLEACH,PHOTOGRAPHIC	$1,631.70	70
6750	013960326	PAPER,PHOTOGRAPHIC	$1,611.60	30
6750	010680573	FILM,PHOTOGRAPHIC	$1,393.80	505
6750	013354287	PAPER PHOTOGRAPHIC	$1,360.80	16
6750	014154148	FILM,PHOTOGRAPHIC	$1,247.30	5
6750	013682629	PAPER,PHOTOGRAPHIC	$1,182.36	6
6750	013209031	FILM,PHOTOGRAPHIC	$1,135.20	211
6750	012468104	PICTURE PACK,RAPID	$1,106.60	110
6750	010332821	PAPER,PHOTOGRAPHIC	$1,082.16	12

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6750	013830184	FILM PHOTOGRAPHIC	$1,071.00	300
6750	013354288	PAPER,PHOTOGRAPHIC	$1,068.70	10
6750	013729479	DEVELOPER CARTRIDGE	$1,052.15	5
6750	013830209	FILM PHOTOGRAPHIC	$988.00	400
6750	010148622	FILM,PHOTOGRAPHIC	$929.81	359
6750	013366166	FILM PHOTOGRAPIHC	$913.98	302
6750	013540677	FILM,PHOTOGRAPHIC	$823.22	156
6750	010507789	DEVELOPER,PHOTOGRAP	$809.76	84
6750	002973883	PAPER,PHOTOGRAPHIC	$724.56	12
6750	013831351	FILM,PHOTOGRAPHIC	$716.48	56
6750	012918314	FILM,PHOTOGRAPHIC	$679.20	80
6750	014269323	FILM,PHOTOGRAPHIC	$667.00	180
6750	013209757	PAPER PHOTOGRAPHIC	$571.20	20
6750	003786825	MOUNT,FILM SLIDE,PH	$557.02	78
6750	013236398	PAPER PHOTOGRAPHIC	$543.00	6
6750	012385391	FILM,PHOTOGRAPHIC	$538.74	146
6750	012274184	FILM,PHOTOGRAPHIC	$524.32	4
6750	004240139	FILM,PHOTOGRAPHIC	$518.70	266
6750	013830204	FILM PHOTOGRAPHIC	$508.50	150
6750	001416558	ACETICACID	$504.08	26
6750	012525837	FILM,PHOTOGRAPHIC	$499.80	60
6750	012274194	FILM,PHOTOGRAPHIC	$498.84	4
6750	011383048	PAPER,COPYING,DIAZO	$493.92	12
6750	013875119	FILM,PHOTOGRAPHIC	$483.20	20
6750	009043299	FILM,PHOTOGRAPHIC	$476.28	12
6750	013018779	CHEMICAL KIT,PHOTOG	$451.20	8
6750	013780405	PAPER,PHOTOGRAPHIC	$444.80	20
6750	014281563	FILM,PHOTOGRAPHIC	$440.00	200
6750	013830223	FILM PHOTOGRAPHIC	$423.00	100
6750	014531448	PICTURE PACK,RAPID	$419.60	40
6750	014280369	PAPER,COPYING,STABI	$416.66	2
6750	014280362	PAPER,COPYING,STABI	$397.82	2
6750	009055123	DEVELOPER,PHOTOGRAP	$373.50	6
6750	001515601	FILM,PHOTOGRAPHIC	$365.60	10
6750	014319882	FILM,PHOTOGRAPHIC	$357.50	110
6750	005441529	FIXING BATH,PHOTOGR	$339.36	84
6750	007823851	DEVELOPER,PHOTOGRAP	$333.68	3
6750	014281570	FILM,PHOTOGRAPHIC	$332.00	100
6750	014280179	FILM,PHOTOGRAPHIC	$324.80	80
6750	013760996	PAPER,PHOTOGRAPHIC	$310.70	10
6750	013916037	PAPER,PHOTOGRAPHIC	$310.15	1
6750	013580067	PAPER,PHOTOGRAPHIC	$301.40	10
6750	010492855	FILM,PHOTOGRAPHIC	$292.90	56
6750	013832226	PAPER,PHOTOGRAPHIC	$290.80	10
6750	012289603	PAPER PHOTOGRAPHIC	$280.40	20
6750	013797363	PAPER,PHOTOGRAPHIC	$272.64	3
6750	009860468	FILM,PHOTOGRAPHIC,R	$268.64	88
6750	001775381	MOUNT,FILM SLIDE,PH	$268.32	39
6750	013831212	FILM PHOTOGRAPHIC	$265.14	3
6750	012270252	FILM,PHOTOGRAPHIC	$264.28	4
6750	013552345	FILM,PHOTOGRAPHIC	$255.60	60
6750	014269326	FILM,PHOTOGRAPHIC	$247.28	2
6750	014280328	FILM,PHOTOGRAPHIC	$242.85	3
6750	010176619	PICTURE PACK, RAPID	$228.33	9
6750	014269301	FILM,PHOTOGRAPHIC	$212.10	30
6750	011500332	FILM,PHOTOGRAPHIC	$211.14	69
6750	008025470	FIXINGBATH	$208.80	60
6750	010492854	FILM,PHOTOGRAPHIC	$204.40	70
6750	014293788	FILM,PHOTOGRAPHIC	$203.00	70
6750	013540676	FILM,PHOTOGRAPHIC	$197.03	61
6750	009265200	NEUTRALIZER AND REP	$176.25	3

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6750	013984609	DEVELOPER,PHOTOGRAP	$163.60	40
6750	005079057	PICTURE PACK,RAPID	$155.40	15
6750	012641281	FILM	$154.80	12
6750	014269370	DEVELOPER,PHOTOGRAP	$149.48	4
6750	010061844	FILM,PHOTOGRAPHIC	$147.46	2
6750	013821486	FILM,PHOTOGRAPHIC	$144.40	40
6750	014280366	PAPER,PHOTOGRAPHIC	$136.10	2
6750	014280364	PAPER,PHOTOGRAPHIC	$136.10	2
6750	010381726	FILM,PHOTOGRAPHIC	$135.84	16
6750	010579731	FILM PHOTOGRAPHIC	$118.11	3
6750	014091609	FILM,PHOTOGRAPHIC	$113.00	25
6750	013830214	FILM PHOTOGRAPHIC	$106.00	50
6750	002458619	WATER COLOR SET,PHO	$105.72	1
6750	014319883	PAPER,PHOTOGRAPHIC	$96.96	2
6750	002529553	PICTURE PACK,RAPID	$93.48	12
6750	010381725	FILM,PHOTOGRAPHIC	$90.00	10
6750	013297512	BRUSH,ANTI-STATIC	$87.60	2
6750	001538911	DEVELOPER	$85.44	24
6750	012274187	FILM,PHOTOGRAPHIC	$83.98	1
6750	010505103	FILM,PHOTOGRAPHIC	$76.00	20
6750	009654838	DEVELOPER,PHOTOGRAP	$72.82	1
6750	005280473	FIXING BATH,PHOTOGR	$65.40	4
6750	014280763	FILM,PHOTOGRAPHIC	$59.82	2
6750	013544410	FILM,PHOTOGRAPHIC	$57.60	12
6750	009860463	FILM,PHOTOGRAPHIC,R	$54.40	20
6750	014280380	FILM,PHOTOGRAPHIC	$50.76	18
6750	013874335	FILM,PHOTOGRAPHIC	$50.40	10
6750	010442434	PAPER,PHOTOGRAPHIC	$42.41	1
6750	014280373	FILM,PHOTOGRAPHIC	$40.85	20
6750	010209934	FILM,PHOTOGRAPHIC	$36.90	6
6750	013767999	DEVELOPER,PHOTOGRAP	$25.00	2
6750	012638405	FILM,PHOTOGRAPHIC	$24.30	10
6750	014280393	FIXING BATH,PHOTOGR	$17.52	1
6750	002667627	DEVELOPER	$16.61	2
6750	013542696	FILM,PHOTOGRAPHIC	$13.08	3
6750	012540976	FILM PHOTOGRAPHIC	$11.32	4
6750	013536581	DEVELOPER,PHOTOGRAP	$11.12	3
6750	014512155	FILM,PHOTOGRAPHIC	$8.98	1
6750	004495190	MOUNT,FILM SLIDE,PH	$6.88	1
6750	006199946	BATH FIX	$4.37	1
6750	001377976	PAPER,COPYING,DIAZO	$0.00	12
6810	005987316	SODIUM HYPOCHLORITE G	$32,306.12	3622
6810	002424770	CALCIUM HYPOCHLORIT	$25,883.32	301
6810	002979540	BATTERY WATER	$22,133.85	1669
6810	002010907	ALCOHOL DENATURED GR	$19,803.18	609
6810	002863783	BATTERY WATER	$19,254.16	1506
6810	004704631	N-HEPTANE,REFERENCE	$11,831.61	103
6810	002402125	SODIUM SILICATE SOLUT	$9,413.20	505
6810	003564936	DISTILLED-DEIONIZED	$8,766.09	681
6810	002550471	CALCIUM HYPOCHLORIT	$8,029.76	5559
6810	006826867	DISTILLED-DEIONIZED	$7,464.09	481
6810	005437415	ALCOHOL DENATURED GR	$6,993.96	882
6810	002756010	METHANOL TECHNICAL 5	$6,063.06	253
6810	011884522	ETHYLENE PROPYLENE	$5,817.60	160
6810	012299828	ETHYLENE GLYCOL-WAT	$4,074.72	104
6810	000064205	ETHYLENE GLYCOL,TEC	$3,517.54	509
6810	002270437	SODIUM CHLORIDE TECH	$2,621.28	381
6810	008938138	SULFURIC ACID ELECTRO	$2,017.84	50
6810	002499354	SULFURIC ACID ELECTRO	$1,985.00	507
6810	002388115	CALCIUM HYPOCHLORIT	$1,944.72	111
6810	008556160	ISOPROPLY ALCOHOL ACS	$1,779.46	81

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6810	011643941	SODIUM HEXAMETAPHOS	$1,723.68	432
6810	011643975	CITRIC ACID,ANHYDRO	$1,542.80	760
6810	005973608	METHANOL TECHNICAL 1	$1,520.28	272
6810	004765612	TRICHLOROETHANE,TEC	$1,511.00	25
6810	002010904	ALCOHOL DENATURED GR	$1,287.70	5
6810	002271307	PETROLEUM ETHER REAGE	$1,233.84	24
6810	002056786	ALCOHOL,DENATURED	$1,233.11	370
6810	009838551	ISOPROPYL ALCOHOL TEC	$1,219.22	614
6810	002010906	ALCOHOL,DENATURED	$1,208.27	690
6810	007534993	ISOPROPYL ALCOHOL TEC	$1,196.95	819
6810	002863785	METHYL ISOBUTYL KETON	$1,131.39	117
6810	009490257	HEXANE,ACS	$1,079.52	24
6810	009306311	1 1 1-TRICHLOROETHANE	$1,078.00	154
6810	001071510	DISTILLED WATER ACS 1	$1,063.68	80
6810	002232739	ACETONE TECH LIQ FORM	$1,060.83	297
6810	009954804	DIETHYLENETRIAMINE 1	$984.70	86
6810	013822904	ISOPROPYL ALCOHOL,T	$959.99	39
6810	002646715	MOLYBDENUM DISULFIDE	$952.56	54
6810	002905574	SODIUM BICARBONATE 10	$942.15	33
6810	002865435	ISOPROPYL ALCOHOL TEC	$893.85	180
6810	002628587	SODIUM CHLORATE ANAL	$879.45	11
6810	002812785	METHYL ETHYL KEYTONE	$749.32	161
6810	001844796	ACETONE TECH 5 GL CN	$720.23	30
6810	005437612	TALC TECHNICAL T1	$516.30	2
6810	010541829	SODIUM CHLORIDE,TEC	$504.00	45
6810	002646517	CHROMIUM TRIOXIDE T F	$482.08	23
6810	001746607	AMMONIUM CHLORIDE TEC	$459.36	15
6810	011047939	SODIUM CHLORIDE	$429.36	12
6810	013594919	GLYCEROL,TECHNICAL	$382.33	17
6810	002812762	METHYL ETHYL KEYTONE	$367.35	20
6810	002388119	NAPHTHA ALIPHATIC TT-	$328.55	71
6810	012209194	CALCIUM CHLORIDE	$308.75	25
6810	002646618	SODIUM BICARBONATE TE	$303.93	307
6810	009006276	SODIUM HYPOCHLORITE 5	$284.35	5
6810	009498331	SODIUM HEXOMETAPHOS T	$281.88	2
6810	001805976	METHYL ISOBUTYL KET	$280.98	7
6810	008154727	CALCIUM CARB TECH GRO	$271.32	17
6810	002929625	1,1,1-TRICHLOROETHANE	$233.87	13
6810	005774889	ALCOHOL,DENATURED	$218.92	52
6810	002811858	SODIUM PHOSPHATE 100	$215.47	1
6810	002372918	NITRIC ACID TECHNICAL	$208.03	11
6810	000872340	INDICATOR SOLUTION,	$195.84	34
6810	001429849	TALC, TECHNICAL	$183.70	2
6810	002900048	TOLUENE-TECH TT-T-548	$177.48	9
6810	002812002	TOLUENE TECH LIQ FORM	$176.80	40
6810	001237047	AMYL ACETATE,REAGEN	$174.54	66
6810	010755546	ISOPROPYL ALCOHOL	$172.34	26
6810	002270410	ISOPROPYL ALCOHOL ACS	$153.50	25
6810	002650664	NAPHTHA ALIPHATIC 5 G	$151.30	7
6810	005844070	XYLENE,TECHNICAL	$138.40	8
6810	002709984	SODIUM BISULFATE,AN	$135.64	2
6810	001461586	SULFAMIC ACID,TECHN	$130.95	1
6810	002440290	DICHLOROMETHANE TECH	$128.08	2
6810	005798431	TOLUENE TECHNICAL 1 Q	$121.44	23
6810	012209193	CALCIUM CHLORIDE,ANHY	$115.80	6
6810	004634271	ISO-OCTANE REFERENCE	$115.16	1
6810	002970092	SODIUM BICARBONATE,	$109.44	3
6810	002815272	BENZENE TECH VV-B-231	$102.74	1
6810	002411150	POTASSIUM CHLORATE AC	$98.84	14
6810	010132685	SULFATE TEST REAGEN	$92.32	2
6810	007634397	CAMPHOR TECHNICAL 1 L	$90.15	3

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6810	007534786	HYDROCHLORIC ACID ACS	$90.09	21
6810	002331715	SODIUM CARBONATE TECH	$86.22	3
6810	006878056	METHANOL ACS 1 GAL CN	$85.80	6
6810	005852017	LIMESTONE,PULVERIZE	$78.66	6
6810	002365359	LEAD NITRATE ACS CRYS	$73.96	4
6810	002646535	BORIC ACID ACS CRYSTA	$67.32	12
6810	010030262	ACETONE,TECHNICAL	$66.90	12
6810	008191128	TETRACHLOROETHYLENE T	$65.60	2
6810	011157792	ISOAMYL ACETATE,REA	$55.82	1
6810	001949477	ACETONE,TECHNICAL	$53.28	2
6810	011902538	ISOPROPYL ALCOHOL,T	$51.03	27
6810	010701784	DISTILLED WATER,TEC	$49.50	11
6810	002056790	ALCOHOL,DENATURED	$48.62	34
6810	002572487	TOLUENE ACS FED O-C-2	$44.43	3
6810	002646609	CHLOROFORM ACS 1 PT B	$36.37	4
6810	006784418	TRICHLOROETHYLENE TEC	$36.21	3
6810	008161025	MOLYBDENUM DISULFID	$35.13	3
6810	002470607	SODIUM SILICATE SOL	$34.44	1
6810	007822686	ALCOHOL,DENATURED	$32.00	5
6810	010117193	NITRATE TEST REAGEN	$29.04	1
6810	002812781	STARCH,SOLUBLE,ACS	$24.00	24
6810	002751215	ACETIC ACID GLACIAL 5	$23.53	2
6810	002709989	TALC,TECHNICAL	$22.32	4
6810	010701783	PHENANTHROLINE	$21.60	2
6810	002365665	HYDROCHLORIC ACID TEC	$19.38	1
6810	010809589	TALC,TECHNICAL	$16.20	3
6810	012209907	ISOPROPYL,ALCOHOL,TEC	$13.76	2
6810	002372920	HYDROFLUORIC ACID ACS	$13.42	1
6810	001382484	ACID HYDROCHLORIC 1	$10.70	2
6810	002708177	SODIUM HYDROXIDE 13 O	$10.34	2
6810	009370975	INDICATOR SOLUTION,	$9.80	1
6810	002817452	MERCURY ACS 1/4 LB BT	$7.78	1
6810	005272476	AMMONIUM HYDROXIDE,	$7.70	5
6810	002979541	BATTERY WATER	$7.20	72
6810	007989643	PHENOLPHTHEIN IND SOL	$6.93	1
6810	010701819	STARCH INDICATOR RE	$6.47	1
6810	002648983	METHYL ETHYL KETONE 3	$6.30	5
6810	010120899	FLUORIDE STANDARD S	$5.71	1
6810	011411460	SULFURIC ACID,REAGE	$4.82	1
6810	007112185	TOLUENE,TECHNICAL	$4.54	2
6810	002232737	DICHLOROMETHANE TECH	$3.56	1
6810	002815265	BENZENE ACS LIQ 1 QT	$2.40	2
6810	009268993	ISOPROPYL ALCOHOL,T	$0.00	4
6820	009268887	DYE,LEAK DETECTION,	$352.92	51
6830	005558837	EXTINGUISHER,FIRE	$217,558.38	1763
6830	013924154	MONOBROMOTRIFLUOROM	$191,862.25	73
6830	013812675	ASSEMBLY,DUSTER,111	$68,371.18	737
6830	005843041	PROPANE	$32,512.29	12531
6830	007822656	HELIUM,TECHNICAL	$13,114.80	60
6830	002920137	ACETYLENE,TECHNICAL	$13,076.68	58
6830	010495263	OXY TECH 252 CU FT	$11,373.12	48
6830	002646751	ACTYLN TECH 225CF CY	$10,351.14	42
6830	013357509	DUSTER ASSEMBLY,MON	$10,026.61	583
6830	002813036	TRICHLOROMONOFLUORO	$7,973.88	4
6830	004958614	DUSTER ASSEMBLY	$6,721.85	440
6830	014311196	HYDROGEN,TECHNICAL	$6,696.30	30
6830	013861396	PROPANE	$6,409.58	120
6830	013909622	TETRAFLUOROETHANE,	$5,696.60	70
6830	014341183	DUSTER ASSEMBLY,TET	$5,505.75	225
6830	007080031	MONOBROMOTRIFLUOROM	$4,633.90	149
6830	009359895	DICHLORODIFLUOROMET	$4,430.85	15

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6830	002920138	ACETYLENE,TECHNICAL	$4,134.77	53
6830	010923263	EXTINGUISHER,HALON	$3,866.22	47
6830	001061659	MONOCHLORODIFLUOROM	$3,715.01	41
6830	014310576	ARGON,TECHNICAL	$3,348.15	15
6830	002645913	DICHLORODIFLUOROMETHA	$3,339.36	9
6830	014390614	TETRAFLUOROETHANE,TEC	$2,794.96	8
6830	013347026	REFILL,MONOCHLORODI	$2,299.83	39
6830	012654068	NITROGEN,TECHNICAL	$1,964.52	6
6830	008379927	MONOCHLORODIFLUOROM	$1,774.78	28
6830	002920129	OXY TECH 252CU FT	$1,189.66	17
6830	002813053	CARBON DIOXIDE,TECH	$1,012.55	11
6830	007822641	NITROGEN,TECHNICAL	$637.02	3
6830	005436623	MONOBROMOTRIFLUOROM	$540.45	1
6830	013886924	REFILL,1,1,1,2-TETR	$521.00	521
6830	002649089	DICHLORODIFLUOROMET	$457.66	16
6830	013355741	MONOCHLORODIFLUOROM	$371.16	36
6830	007822637	ARGON,TECHNICAL	$218.91	1
6830	002271862	OXYGEN,TECHNICAL	$215.63	1
6830	009359896	MONOCHLORODIFLUOROM	$201.30	3
6830	006022357	COMPRESSED AIR,TECH	$166.65	33
6830	002920732	NITROGEN 231 CF CYL	$138.52	2
6830	014341191	REFILL,DUSTER ASSEM	$131.48	2
6830	004249580	REFILL,DICHLORODIFL	$124.56	24
6830	012882982	DUST OFF ASSEMBLY R	$114.95	1
6830	002298944	PROPANE	$99.00	100
6830	002920147	DICHLORODIFLUOROMET	$93.04	4
6830	006560815	PROPANE	$76.65	5
6830	002904377	DICHLORODIFLUOROMET	$13.23	49
6830	002617445	PROPANE	$12.00	12
6830	005318102	DICHLORODIFLUOROMETHA	$10.00	10
6830	010117848	CARBON DIOXIDE,TECH	$4.40	10
6830	008089530	OXYGEN,AVIATORS BRE	$1.00	100
6830	001690800	OXYGEN,TECHNICAL	$0.01	1
6830	011222652	NITROGEN,TECHNICAL	$0.00	3
6830	011243351	NITROGEN,TECHNICAL	$0.00	3
6840	012843982	INSECT REPELLENT,PE	$198,302.73	6032
6840	005843129	DISINFECTANT DETERG	$101,935.11	6531
6840	006877904	DISINFECTANT DETERG	$80,243.05	13748
6840	012781336	INSECT REPELLENT,CL	$77,141.89	2077
6840	014242495	INSECTICIDE,ALTOSID	$35,462.44	52
6840	014242493	INSECTICIDE,METHOPR	$28,508.16	6
6840	013450237	INSECT REPELLENT,CL	$23,288.55	535
6840	014124634	INSECTICIDE,D-PHENO	$15,710.50	2417
6840	008106396	DISINFECTANT FOOD SVC	$12,164.35	187
6840	006646610	DEODORANT,GENERAL P	$8,041.74	893
6840	007216055	DEODORANT GENERAL LQD	$7,834.06	4895
6840	002012505	DISINFECTANT-DETERG	$7,411.30	548
6840	012103392	INSECTICIDE,DURSBAN	$7,283.56	248
6840	013830739	DISINFECTATNT,DET	$4,527.32	46
6840	012981122	INSECTICIDE,FIPRONI	$4,395.60	48
6840	007534963	INSECT REPELLENT,CL	$4,321.08	3152
6840	013777049	INSECTICIDE,BACTIMO	$3,877.64	52
6840	002466438	DEODORANT,GENERAL P	$3,647.54	820
6840	008237849	INSECTICIDE PYRETHRIN	$3,450.95	28
6840	014258229	DEODORANT,GEN PURPOSE	$3,430.80	60
6840	012882188	INSECT REPELLENT AN	$3,263.25	75
6840	007534797	DISINFECTANT,GENERA	$3,108.86	51
6840	012073912	DEODORANT,GENERAL PUR	$2,458.80	30
6840	011089578	HERBICIDE, GLYPHOSA	$2,432.80	8
6840	014313357	INSECTICIDE,LAMBDA-	$2,012.25	38
6840	011837244	INSECTICIDE,FLY BAI	$2,007.71	112

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6840	013424143	CLEANER DISINFECTION	$1,799.37	403
6840	007534973	RODENTICIDAL BAIT ANT	$1,749.20	190
6840	014129363	INDOOR FLY CATCHER	$1,722.80	40
6840	010039589	INSECT REPELLENT,PERS	$1,601.60	1430
6840	013599207	DEODORANT,GENERAL PUR	$1,476.80	71
6840	010672137	INSECTICIDE,D-TRANS	$1,401.57	783
6840	012241269	INSECTICIDE COMBAT,	$1,360.48	16
6840	011514884	RODENTICIDAL BAIT,A	$1,320.75	45
6840	013684789	DEODORANT,GENERAL PUR	$1,296.36	234
6840	004592443	INSECTICIDE	$1,140.54	26
6840	012073915	DISPENSER,DEODORANT	$1,128.12	17
6840	013342666	INSECT REPELLENT,CL	$972.66	6
6840	013137359	INSECTICIDE,CYFLUTH	$857.90	2
6840	013684785	DEODORANT,GENERAL PUR	$836.54	151
6840	012674346	FUNGICIDE	$807.30	38
6840	001429438	INSECT STRIP DIC 2.5X	$732.96	4
6840	013599208	DEODORANT, GENERAL PU	$607.96	32
6840	014264808	RODENTICIDE,ANTICOA	$572.55	15
6840	005987326	DISINFECTANT-DETERG	$543.74	31
6840	014529582	INSECT REPELLENT,PE	$395.26	2
6840	009261686	DISINFECTANT-DETERG	$377.64	36
6840	009324692	DEODORANT,GENERAL P	$361.98	99
6840	004058608	DEODORANT,GENERAL P	$344.50	50
6840	013684787	DEODORANT,GEN,PURPOSE	$317.25	47
6840	012709766	INSECTICIDE,DURSBAN	$266.57	1
6840	000894664	RODENTICIDE BAIT BLOC	$208.56	4
6840	010371416	DEODORANT,GENERAL P	$192.94	22
6840	013599206	DEODORANT,GENERAL PUR	$178.50	150
6840	012781356	LUBRICATING OIL,ENG	$159.39	69
6840	013599209	DEODORANT,GENERAL PUR	$150.22	8
6840	009359813	DISINFECTANT-DETERG	$94.40	10
6840	001428965	INSECT REPELLENT PERS	$93.06	3
6840	014119963	DISINFECTANT,GENERAL	$86.25	15
6840	011800167	INSECTICIDE,COMBAT	$81.44	1
6840	012873938	INSECTICIDE,BORIC A	$76.90	1
6840	014258232	DEODORANT,GENERAL PUR	$71.76	1
6840	013684788	DEODORANT,GENERAL PUR	$66.10	10
6840	005581593	DISINFECTANT,GENERA	$52.10	2
6840	013856060	DOEDORANT,GENERAL PUR	$51.52	4
6840	010355432	DISINFECTANT,FOOD S	$37.75	25
6840	013684786	DEODERANT,GENERAL PUR	$37.20	6
6840	001741824	INSECTICIDE,P-DICHL	$6.44	2
6840	000572426	DEODORANT GEW PURP GE	$0.00	737
6850	013578456	DECONTAMINATION KIT	$3,379,393.10	4818
6850	012761905	DECONTAMINATING KIT	$1,828,790.05	7583
6850	001817933	ANTI-FREEZE PERM MIL-	$302,964.84	9491
6850	013972539	WEAPONS WASHER	$216,129.94	97
6850	013780666	CLEANING COMPOUND,S	$101,504.96	91
6850	014413221	ANTIFREEZE	$71,234.40	3216
6850	001817929	ANTIFREEZE	$69,876.00	11377
6850	013761766	TONER,DIRECT ELECTR	$69,040.73	1454
6850	013814404	CLEANING COMPOUND,S	$64,573.30	55
6850	010393841	DEICING-DEFROSTING	$59,476.83	183
6850	011368888	DECONTAMINATING AGE	$58,946.00	345
6850	014413218	ANTIFREEZE	$46,942.92	10188
6850	001817940	ANTIFREEZE	$40,580.21	169
6850	002706225	CHLORINATION KIT FED	$37,371.36	778
6850	013684797	OFFICE DUSTER	$36,985.41	1779
6850	009262275	CLEANING COMPOUND WIN	$33,635.88	51004
6850	007534870	DECONTAMINATING AGE	$32,963.38	397
6850	002976653	DECON AGENT STB	$26,564.72	446

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6850	011594844	SILICONE COMPOUND	$25,242.97	1681
6850	013780679	CLEANING COMPOUND,S	$24,522.92	164
6850	013780698	CLEANING COMPOUND,S	$13,454.00	35
6850	014283583	TONER,INDIRECT ELEC	$12,757.77	201
6850	002646572	DESICCANT ACTIV 150-1	$10,888.33	99
6850	013526129	WATER PURIFICATION	$10,379.38	121
6850	001053084	CLEANING COMPOUND 16	$10,238.52	1176
6850	008807616	SILICONE COMPOUND	$10,084.45	3337
6850	001817594	CLEANING COMPOUND,E	$9,300.71	305
6850	013982396	TONER,INDIRECT ELEC	$7,653.36	60
6850	009652332	CARBON REMOV 5 GL CN	$6,682.76	182
6850	014379825	TONER,INDIRECT ELEC	$6,079.50	35
6850	002709986	SEA MARKER,FLUORESC	$6,037.04	136
6850	008237861	FUEL ENGINE PRIMER 8	$5,743.61	405
6850	013705245	CLEANING COMPOUND,E	$5,733.52	149
6850	002649038	DRY CLEANING SOLVEN	$5,471.64	387
6850	002745421	DRY CLEANING SOLVENT	$5,126.16	312
6850	007534827	DECONTAMINATING AGE	$4,800.90	485
6850	009845853	CLEANING COMP SOLV 5	$4,576.25	7
6850	013775314	INHIBITOR,ICING,FUE	$4,555.02	534
6850	011155268	COATING COMPOUND,OX	$4,295.00	10
6850	013599214	SCALE REMOVING	$4,012.13	97
6850	013579991	TONER,INDIRECT ELECTR	$3,913.78	52
6850	013834244	ANTIFREEZE	$2,939.97	59
6850	013476245	TONER KIT PHOTOGRAPHI	$2,813.20	65
6850	002811985	DRY CLEANING SOLVEN	$2,692.84	743
6850	009010591	ANTI ICING FLUID 5 GL	$2,584.38	114
6850	002646571	DESICCANT ACTIVATED30	$2,571.56	23
6850	009359794	DESICCANT,ACTIVATED	$2,520.80	23
6850	014120040	CLEANING COMPOUND,S	$2,517.02	17
6850	013718048	CLEANING COMPOUND,S	$2,342.82	28
6850	005987311	LEAK PREVENTIVE COMP	$2,276.40	113
6850	009491397	SCALE REMOVING COMP	$2,264.77	74
6850	004059312	SKIN PROTECTIVE COM	$2,233.74	690
6850	005592836	CLEANING COMP SOLV TY	$1,967.20	10
6850	009652356	FLUID,PURGING,PRESE	$1,955.04	8
6850	010393842	DEICING-DEFROSTING	$1,925.60	58
6850	008350484	DEICING DEFROSTING 14	$1,903.67	2071
6850	005987328	CLEANING COMPOUND,E	$1,899.76	84
6850	002246663	CLEANING COMP RIFLE B	$1,805.85	224
6850	007037406	INSPECTION PENETRAN	$1,698.84	4
6850	013982650	IMAGE DRUM, CARTRIDGE	$1,645.38	10
6850	013815139	CLEANING COMPOUND,S	$1,634.36	14
6850	011860859	CLEANER,MARKERBOARD	$1,623.22	367
6850	013868415	CLEANING COMPOUND,S	$1,559.86	23
6850	011675318	COAGULANT,WATER TRE	$1,534.40	560
6850	013684799	CLEANING COMPOUND,W	$1,462.58	11
6850	012110986	CLEANING COMPOUND,S	$1,437.84	451
6850	013780401	CLEANING COMPOUND,S	$1,412.40	3
6850	011637635	WETTING AGENT	$1,327.00	100
6850	006641403	ANTIFREEZE	$1,300.02	241
6850	013447147	LEAK PREVENTIVE COM	$1,245.60	10
6850	006644959	SILICONE COMP 1 GL CN	$1,188.04	7
6850	001775094	SILICONE COMPOUND 2 O	$1,185.60	666
6850	000632841	BLEACH,LAUNDRY,ORGA	$1,183.90	10
6850	012143682	DESICCANT,ACTIVATED	$1,167.48	450
6850	002246657	CLEANING COMP RIFLE B	$1,129.51	1070
6850	012073835	ANTISTATIC CLEANER CO	$1,128.90	10
6850	014248053	TONER DIRECT ELECTRO	$1,116.60	30
6850	014209041	GRIPPING COMPOUND	$1,102.20	5
6850	009739091	PENETRATING FLUID	$1,100.26	754

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6850	000143914	CLEANING COMPOUND 1 G	$1,087.40	5
6850	001741806	ANTIFREEZE PERMANENT	$971.24	5
6850	014248056	TONER,DIRECT ELECTRO	$966.75	25
6850	013718049	CLEANING COMPOUND,S	$934.11	9
6850	014248051	TONER,DIRECT ELECTROS	$931.75	25
6850	002645771	CALIBRATING FLUID MIL	$930.33	9
6850	013836259	FREEZE POINT TESTER	$905.16	12
6850	006561292	CORROSION REMOVING CO	$849.16	23
6850	010457929	CLEANING COMPOUND,A	$847.32	46
6850	011514214	DESICCANT,ACTIVATED	$845.67	21
6850	009354086	LUBRICATING OIL,REF	$830.40	12
6850	012513289	METAL CLEANER	$800.48	8
6850	014413240	ANTIFREEZE	$797.20	20
6850	012350872	CLEANING COMPOUND,A	$773.24	21
6850	009354068	LEAK DETECTION FLUID	$772.00	40
6850	014248054	TONER DIRECT ELECTRO	$760.00	90
6850	006802233	DESICCANT ACTIVATEDTY	$744.72	46
6850	013092078	DESICCANT,ACTIVATED	$735.50	25
6850	000055305	CLEANING COMPOUND,A	$710.63	347
6850	005923283	CLEANING COMPOUND,O	$704.38	78
6850	002858012	DRY CLEANING SOLVENT	$683.50	7
6850	014188759	GRIPPING COMPOUND	$678.02	2
6850	013833060	CLEANING COMPOUND,S	$676.77	3
6850	013840618	CLEANING COMPOUND,S	$654.85	5
6850	007535000	CLEANING COMPOUND HIG	$650.80	20
6850	013436998	TONER,INDIRECT ELEC	$648.72	18
6850	010088947	CLEANER,PLASTIC	$637.97	131
6850	013780616	CLEANING COMPOUND,S	$625.11	5
6850	013982473	DUST BLASTER	$619.00	619
6850	001395297	RAIN REPELLENT,WIND	$607.21	299
6850	013172458	TONER,DIRECT ELECTR	$606.18	6
6850	007822740	INSPECTION PENETRANT	$592.84	21
6850	014112657	TONER INDIRECT	$591.30	5
6850	006645685	DRY CLEAN SOLVENT	$582.40	104
6850	000035295	CLEANING AND LUBRIC	$577.23	71
6850	009635402	SILICONE COMPOUND 8 O	$576.80	56
6850	014567994	TONER,DIRECT ELECTR	$570.00	6
6850	012616064	TONER,INDIRECT ELEC	$560.00	32
6850	013313350	DRY CLEANING SOLVEN	$509.56	2
6850	009359793	DESICCANT	$478.95	3
6850	010598392	DESICCANT,ACTIVATED	$473.00	22
6850	002450447	CLEANING AND LUBRIC	$470.40	16
6850	013728303	CLEANING COMPOUND,E	$462.30	10
6850	005505565	CORROSION REMOVING CO	$445.55	1
6850	014181704	CLEANING COMPOUND,S	$426.51	3
6850	008797657	SILICONE COMPOUND	$424.40	10
6850	001277193	ANTIFOGGING KIT 1 CN	$422.91	333
6850	009279461	SILICONE COMPOUND 5 O	$415.08	94
6850	012278201	METAL CLEANER AND C	$410.16	6
6850	001094362	SILICONE COMPOUND	$408.96	34
6850	002560157	CLEANING COMPOUND PWD	$401.24	4
6850	011670678	CLEANER,BRAKE PARTS	$397.68	98
6850	012154776	CLEANING COMPOUND,S	$376.75	11
6850	010814193	DESICCANT,ACTIVATED	$374.10	118
6850	013599211	CLEANER ANTISTATIC	$372.00	124
6850	001104498	DRY CLEANING SOLVEN	$352.35	255
6850	011603868	INHIBITOR,CORROSION	$349.34	134
6850	006022347	FLUX REMOVAL COMPOU	$344.25	41
6850	006641409	ANTIFREEZE	$341.74	2
6850	002646573	DESICCANT ACTIV 150 E	$334.80	12
6850	001749672	CORROSION REMOVING CO	$321.90	30

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6850	008238143	DESICCANT ACTIVATED 1	$318.32	1
6850	008260981	INSPECTION PENETRAN	$314.33	9
6850	010078073	CLEANING COMPOUND,S	$309.43	27
6850	010518569	DESICCANT,ACTIVATED	$303.00	30
6850	013875815	DEVELOPER,INDIRECT	$297.63	3
6850	002813061	DRY CLEANING SOLVENT	$294.33	27
6850	012878067	INHIBITOR,CORROSION	$290.64	42
6850	013331841	FREEZING COMPOUND	$287.51	4
6850	013833918	ANTIFREEZE	$287.10	1
6850	003929751	CLEANING COMP OPTICAL	$286.32	192
6850	013248916	CLEANING COMPOUND,E	$284.78	29
6850	000014194	WATER INDICATING PA	$282.06	18
6850	011434488	KIT,LENS CLEANING	$276.81	89
6850	010851423	CARBON REMOVING COM	$268.27	139
6850	013939053	CLEANING COMPOUND,S	$264.60	12
6850	008411347	MAGNETIC INSPECTION	$256.10	65
6850	011672003	SILICONE COMPOUND	$255.64	44
6850	014368691	CLEANING COMPOUND,S	$237.22	2
6850	003190834	CLEANING COMPOUND,S	$233.70	2
6850	002246656	CLEANING COMP RIFLE B	$233.50	308
6850	012669756	DESICCANT,ACTIVATED	$218.65	41
6850	006854763	CLEANING COMPOUND,A	$216.70	40
6850	005080076	PENETRATING FLUID	$215.33	112
6850	007534806	CLEANING COMP RIFLE B	$205.08	1
6850	012377482	CLEANING COMPOUND,A	$202.44	7
6850	003685233	INHIBITOR CORROSION C	$200.36	4
6850	013210640	TONER INDIRECT ELECTR	$192.80	5
6850	011698438	SCALE REMOVING COMP	$183.96	2
6850	014413257	ANTIFREEZE	$180.00	9
6850	005979765	CLEANING COMPOUND SOL	$179.17	19
6850	002910963	LITHOGRAPHIC BLANKET	$178.65	45
6850	002646562	DESICCANT ACTIVATED 2	$173.50	5
6850	002900042	DESICCANT ACTIVATED T	$168.20	4
6850	014307137	CLEANING COMPOUND,S	$168.12	6
6850	010304827	DESICCANT,ACTIVATED	$165.92	16
6850	014567991	TONER,DIRECT ELECTR	$164.24	4
6850	002705526	GASOLINE INDICATING P	$161.02	58
6850	013803976	CLEANING COMPOUND,S	$157.80	12
6850	002271887	CLEANING COMPOUND 1 Q	$156.02	58
6850	013685489	CLEANING COMPOUND,W	$155.05	1
6850	013814420	CLEANING COMPOUND,S	$154.88	1
6850	010150834	LAYOUT DYE	$154.66	36
6850	009652331	CLEANING COMP SOLVENT	$150.36	6
6850	012010635	CLEANING COMPOUND	$148.32	12
6850	009733122	CLEANER ELECTRIC CONT	$145.92	38
6850	006197804	DESICCANT,ACTIVATED	$140.48	1
6850	011583928	CLEANING COMPOUND,S	$139.39	53
6850	012653115	SILICONE LUBRICANT	$125.62	2
6850	014231075	CLEANING COMPOUND,S	$123.75	1
6850	013630153	TONER,DIRECT ELECTRIC	$122.06	4
6850	008526569	ANTI-SEAT & CLEAN COM	$119.16	9
6850	012528501	ANTIFREEZE	$113.73	1
6850	001429389	WATER-DISPLACING CO	$113.00	36
6850	006649067	LAYOUT DYE BLUE COLOR	$112.34	14
6850	014413234	ANTIFREEZE	$100.00	25
6850	013755553	CLEANING COMPOUND,S	$99.25	1
6850	010634760	CLEANING COMPOUND,S	$94.26	33
6850	008036420	CARBON REMOV COMP DIP	$92.38	1
6850	014184573	CLEANING COMPOUND,S	$92.24	1
6850	014307134	CLEANING COMPOUND,S	$84.45	3
6850	014443118	SKIN PROTECTIVE COM	$84.00	7

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
6850	007024297	SILICONE COMP MIL-C-2	$83.10	6
6850	012287266	CLEANING COMPOUND,S	$82.44	9
6850	009265298	CLEANING COMPOUND	$80.00	1
6850	008874451	DESICCANT,ACTIVATED	$78.03	3
6850	013857415	CLEANER,COMPUTER SCRE	$77.88	22
6850	001850423	LEAK TEST COMPOUND	$75.96	12
6850	007542671	ANTIFOGGING COMPOUN	$74.80	44
6850	013872049	SKIN PROTECTIVE COM	$73.99	1
6850	013313349	DRY CLEANING SOLVEN	$70.77	3
6850	012040690	FUEL,ENGINE PRIMER	$63.72	3
6850	000031194	CLEANING AND LUBRIC	$59.65	15
6850	001608481	INSPECTION PENETRANT	$59.20	20
6850	002957685	SILICONE COMPOUND 10	$59.11	1
6850	001429409	WATER-DISPLACING CO	$59.06	17
6850	013749921	CHLORINATION KIT,WA	$56.76	4
6850	013775074	INHIBITOR,ICING,FUE	$55.34	2
6850	013984453	TONER,INDIRECT ELECTR	$52.84	2
6850	014535703	CLEANING COMP	$50.60	5
6850	010283063	CORROSION,REMOVER	$50.08	2
6850	006211820	LEAK TEST COMPOUND TY	$49.72	44
6850	005272426	CLEANING COMPOUND,A	$42.91	1
6850	013871529	ADDITIVE,COOLANT	$41.24	1
6850	013971908	TUNER,INDIRECT ELECTR	$37.48	2
6850	011434853	HEAT SINK COMPOUND	$36.82	1
6850	004431183	SILICONE COMPOUND	$32.40	6
6850	009856227	LAYOUT DYE	$31.88	2
6850	007542672	ANTIFOGGING COMPOUN	$31.44	12
6850	006211819	LEAK TEST COMPOUND TY	$28.60	20
6850	012858354	CLEANER DRY ERASE	$28.08	12
6850	012620635	PAINT FACE CAMOUFLAGE	$27.60	20
6850	001817727	DESICCANT,ACTIVATED	$25.38	3
6850	012697118	SILICONE COMPOUND	$22.84	2
6850	002498029	CLEANING COMPOUND,R	$20.39	1
6850	010114937	TONER,DIRECT ELECTR	$14.46	2
6850	013834068	ANTIFREEZE	$12.10	2
6850	001862963	LEAK TEST COMPOUND	$10.74	6
6850	002940860	SILICONE COMPOUND	$9.88	2
6850	014354052	CLEANING COMPOUND,WIN	$8.60	5
6850	002811837	DESICCANT ACTIVATED T	$6.38	1
6850	013684798	CLEANING COMPOUND	$5.00	5
6850	013470073	CLEANING COMPOUND,W	$0.00	78
6850	000822522	INHIBITOR,ICING,FUE	$0.00	11
6850	004318662	ETCHING SOLUTION	$0.00	2
6850	006641399	ANTIFREEZE	$0.00	2
7930	011740979	CLEANING COMPOUND	$592,885.64	10042
7930	009265280	DETERGENT,GENERAL P	$80,125.01	1234
7930	002691272	ABSORBENT MATERIAL,	$76,222.51	14340
7930	013425315	CLEANING COMPOUND,S	$68,345.41	1189
7930	002814731	DISHWASHING COMP-HND	$62,550.84	1634
7930	013813499	GLASS CLEANER	$61,065.27	1860
7930	001415888	WAX FLR-WTR-EMULSN-16	$51,384.93	1814
7930	008999534	DISHWASHING COMPOUND	$42,130.04	1306
7930	008804454	DISHWASHING COMPOUND	$39,289.68	950
7930	001325265	SWEEPING COMP-MINERAL	$33,791.52	1539
7930	003577386	DETERGENT,GENERAL P	$29,875.30	22633
7930	013068369	CLEANING COMPOUND,S	$27,728.37	443
7930	004592247	CLEANING COMPOUND,O	$24,978.63	831
7930	011797236	REMOVER DUST AND LI	$24,883.62	3214
7930	007218592	SCOURING POWDER	$19,102.74	769
7930	013608019	DETERGENT,GENERAL	$17,373.51	533
7930	013632818	CLEANING COMPOUND,SOL	$17,251.02	366

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
7930	013632819	CLEANING COMPOUND,SOL	$15,985.86	457
7930	013569205	CLEANING SOLUTION,P	$15,319.78	618
7930	013813398	CLEANING COMPOUND,S	$14,825.52	349
7930	006646910	GLASS CLEANER-LIQ-CLN	$12,852.22	852
7930	014181496	POLISH,PLASTIC	$11,775.24	12
7930	013268110	GLASS CLEANER	$10,903.93	763
7930	013470967	CLEANING COMPOUND,A	$9,185.54	103
7930	014181234	CLEANING COMPOUND,S	$9,090.47	293
7930	002052870	WAX,FLOOR,WATER EMU	$8,739.16	1671
7930	013425316	CLEANING COMPOUND,S	$8,698.14	153
7930	013813349	POLISH,FURNITURE	$8,533.61	370
7930	002052874	POLISH SHOE	$7,662.88	798
7930	001849423	GLASS CLEANER LIQUID	$7,305.44	2863
7930	013425317	CLEANING COMPOUND,S	$7,294.51	70
7930	013507034	CLEANING COMPOUND,S	$7,284.20	70
7930	013936720	POLISH,PLASTIC	$7,252.80	12
7930	013521496	CLEANER,ALL-PURPOSE	$6,821.00	100
7930	012941115	SCOURING POWDER	$6,135.03	559
7930	013813426	CLEANING COMPOUND,T	$5,928.75	204
7930	013504280	CLEANING COMPOUND,S	$5,418.14	200
7930	013464289	CLEANING COMPOUND,S	$5,328.76	100
7930	014181238	CLEANING SOLUTION,P	$4,824.60	165
7930	014120982	DEICER	$4,812.58	69
7930	013623208	CLEANING COMPOUND,S	$4,736.70	146
7930	009353794	POLISH,PLASTIC	$4,442.23	76
7930	009265171	POLISH,METAL	$4,285.25	1525
7930	013808447	FINISH,FLOOR,NONBUF	$4,077.15	105
7930	000456923	REMOVER,FLOOR POLIS	$3,845.02	1531
7930	013813491	POLISH,FURNITURE	$3,747.43	158
7930	011455797	COMPOUND,ADSORBENT	$3,686.37	309
7930	013599229	CLEANING SOLUTION	$3,534.81	87
7930	014181495	POLISH,PLASTIC	$3,532.20	12
7930	013469148	CLEANING COMPOUND,S	$3,147.66	164
7930	002052871	WAX FLR-WATER EMULSN-	$3,041.50	11
7930	001775243	DETERGENT,GENERAL P	$2,931.76	832
7930	013837923	GLASS CLEANER	$2,843.19	70
7930	013892611	DUST REMOVER,COMPRE	$2,755.60	452
7930	002829699	DETERGENT-GP-LIQ WS A	$2,593.13	191
7930	013936747	CLEANING COMPOUND,S	$2,567.76	66
7930	014181164	ABSORBENT MATERIAL,	$2,491.60	40
7930	007649017	RINSE ADDITIVE,DISH	$2,467.08	36
7930	013738849	CLEANING COMPOUND,S	$2,390.86	29
7930	013569206	CLEANING SOLUTION,PRO	$2,366.54	62
7930	013813381	CLEANING COMPOUND,T	$2,293.59	72
7930	014181485	CLEANING COMPOUND,T	$2,291.52	22
7930	010118652	CLEANING COMPOUND,S	$2,027.28	36
7930	006339849	SWEEPING COMPOUND	$2,017.00	85
7930	002981947	WAX GP-SOLVENT-PASTE	$2,015.28	54
7930	013813359	GLASS CLEANER	$1,998.25	89
7930	014195178	TOWELETTE CLEANING	$1,898.58	372
7930	001447061	GLASS CLEANER	$1,593.00	30
7930	002797464	POLISH,METAL	$1,569.30	26
7930	014181239	CLEANING SOLUTION,P	$1,466.68	37
7930	014181493	CLEANING COMPOUND,S	$1,395.68	52
7930	013470490	CLEANING COMPOUND,S	$1,332.16	32
7930	013670994	CLEANING SOLVENT,GEN	$1,284.32	8
7930	009856945	DETERGENT GENERAL PUR	$1,281.48	133
7930	014181491	POLISH,PLASTIC	$1,278.00	12
7930	005140645	CLEANING,COMPOUND	$1,256.82	10
7930	013808487	POLISH,FURNITURE	$1,213.65	65
7930	010453515	DETERGENT,LAUNDRY	$1,206.56	32

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
7930	013647375	CLEANING COMPOUND,SOL	$1,204.50	2
7930	013813351	DETERGENT,GENERAL P	$1,182.52	17
7930	013813477	CLEANING COMPOUND,R	$1,147.69	30
7930	014181488	POLISH,PLASTIC	$1,122.24	12
7930	013837926	CLEANING COMPOUND,S	$1,114.52	27
7930	013464290	CLEANING COMPOUND,S	$1,086.68	3
7930	000681669	DETERGENT,GENERAL P	$1,065.99	406
7930	013980997	DEICER	$1,042.82	23
7930	013608050	POLISH,METAL	$934.80	29
7930	013065029	WIPES DRY ERASE BOA	$917.54	98
7930	013424145	CLEANING COMPOUND,S	$886.81	3
7930	013808495	AIR SANITIZER AND S	$885.51	15
7930	013393425	CLEANING COMPOUND,S	$884.80	8
7930	011335375	POLISH,PLASTIC	$859.72	24
7930	013936753	SCOURING PAD	$853.83	36
7930	009291220	DETERGENT,LAUNDRY	$852.54	27
7930	000456912	REMOVER,FLOOR POLIS	$852.40	64
7930	002526797	DETERGENT-LNDRY-PWDR-	$816.50	25
7930	007249556	CLEANING COMPOUND	$809.76	21
7930	013980950	CLEANING COMPOUND,R	$807.12	19
7930	013980854	CLEANING SOLUTION,P	$775.58	26
7930	013936591	DEICER	$757.20	20
7930	013670995	CLEANING SOLVENT,GE	$718.44	6
7930	013311507	CLEANING COMPOUND,S	$716.29	13
7930	013936726	POLISH,PLASTIC	$706.05	15
7930	013936718	POLISH,PLASTIC	$697.32	12
7930	014120987	CLEANING COMPOUND,S	$691.60	7
7930	013813333	POLISH,FURNITURE	$680.52	30
7930	012941116	SCOURING POWDER	$653.78	49
7930	013981006	CLEANING COMPOUND,O	$653.72	23
7930	002247901	SOAP,LAUNDRY	$648.58	9
7930	013808346	CLEANING COMPOUND,T	$645.88	26
7930	013808395	REMOVER,NONBUFFING	$615.56	28
7930	013738848	CLEANING COMPOUND,S	$609.51	11
7930	001775217	CLEANING COMPOUND,SOL	$590.48	88
7930	014181494	CLEANING COMPOUND,S	$590.48	22
7930	013808334	REMOVER,NONBUFFING	$590.00	20
7930	014181514	ABSORBENT MATERIAL,	$588.74	16
7930	009012088	GLASS CLEANER	$586.61	179
7930	001290816	SOAP LAUNDRY-POWDER-R	$585.00	13
7930	013980995	FINISH,FLOOR,NONBUF	$584.60	10
7930	013936683	CLEANING COMPOUND,S	$572.07	1
7930	014181520	SPECIAL ITEM	$570.01	17
7930	013367197	CLEANING COMPOUND,S	$569.34	10
7930	014181438	POLISH,PLASTIC	$553.92	12
7930	014181256	POLISH,FURNITURE	$539.82	38
7930	013808387	FINISH,FLOOR,NONBUF	$537.00	12
7930	013837942	POLISH,AUTOMOBILE	$533.52	8
7930	014181221	FINISH,FLOOR,NONBUF	$529.50	30
7930	014181151	CLEANING COMPOUND,S	$528.48	12
7930	013980947	GLASS CLEANER	$524.58	21
7930	011843905	FINISH FLOOR NONBUF	$508.15	95
7930	013813407	GLASS CLEANER	$504.02	22
7930	013980948	GLASS CLEANER	$498.55	13
7930	014181133	GLASS CLEANER	$462.84	21
7930	012367280	DETERGENT LAUNDRY	$456.36	12
7930	014120984	DEICER	$443.52	9
7930	014181142	REMOVER,NONBUFFING	$441.89	10
7930	013808528	POLISH,FURNITURE	$436.45	17
7930	013812758	FINISH,FLOOR,NONBUF	$430.36	12
7930	013465283	CLEANING COMPOUND,S	$426.48	18

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
7930	014120985	CLEANING COMPOUND,S	$422.37	3
7930	014181509	SPECIAL ITEM	$417.00	7
7930	012766154	DETERGENT,GENERAL P	$416.90	11
7930	013808507	CLEANING COMPOUND,S	$402.15	15
7930	009856911	DETERGENT GENERAL PUR	$395.74	6
7930	011306287	ARMOR ALL CLEANER	$389.27	7
7930	013808359	GLASS CLEANER	$385.14	7
7930	013980850	GLASS CLEANER	$373.44	12
7930	009856905	DISHWASHING COMPOUN	$362.10	10
7930	002813267	WAX AUTOMOBILE PASTE-	$332.12	92
7930	013507033	CLEANING COMPOUND,S	$331.80	3
7930	014181189	REMOVER,NONBUFFING	$329.44	5
7930	013813464	CLEANING COMPOUND,T	$327.85	29
7930	014181492	CLEANING SOLUTION,P	$327.46	14
7930	014181159	GLASS CLEANER	$319.14	18
7930	013808437	POLISH,FURNITURE	$318.99	13
7930	013808531	CLEANING COMPOUND,S	$310.36	2
7930	014181490	POLISH,METAL	$305.50	13
7930	009907391	DETERGENT LAUNDRY	$302.15	17
7930	013981026	CLEANING COMPOUND,S	$300.32	6
7930	013647376	CLEANING COMPOUND SOL	$291.80	5
7930	002910410	SWEEPING COMPOUND	$281.41	7
7930	013670996	CLEANING SOLVENT,GE	$275.44	2
7930	013672907	DETERGENT,LAUNDRY	$274.10	10
7930	013981014	CLEANING COMPOUND,S	$272.94	6
7930	004895606	POLISH,AUTOMOBILE	$270.00	2
7930	014181098	REMOVER,NONBUFFING	$262.26	8
7930	014122432	SPECIAL ITEM	$257.84	4
7930	013738850	CLEANING COMPOUND,S	$257.35	5
7930	013964977	CLEANING COMPOUND,S	$252.00	48
7930	014181227	POLISH,METAL	$251.36	8
7930	013788967	CLEANING CHEMICAL D	$251.03	1
7930	013813415	CLEANING COMPOUND,S	$244.26	4
7930	011838585	FINISH,FLOOR,NONBUF	$238.84	8
7930	013980949	DETERGENT,GENERAL P	$228.69	11
7930	013936657	CLEANING COMPOUND,R	$226.73	7
7930	013936759	CLEANING COMPOUND,S	$225.30	6
7930	014120535	DETERGENT,LAUNDRY	$222.48	4
7930	013813378	CLEANING COMPOUND,T	$221.34	21
7930	013285960	CLEANING COMPOUND,S	$219.84	3
7930	014181229	CLEANING COMPOUND,S	$212.16	8
7930	001705467	SOAP,SADDLE	$201.72	76
7930	013808350	FINISH,FLOOR,NONBUF	$199.15	5
7930	014367940	CLEANING SOLUTION,P	$194.85	5
7930	013813442	DETERGENT,GENERAL P	$187.96	4
7930	013981030	CLEANING COMPOUND,T	$186.42	3
7930	013813507	CLEANING COMPOUND,S	$183.48	2
7930	002918321	SOUR LNDRY-DRY-SOD SI	$182.55	5
7930	013815947	CLEANING COMPOUND,S	$181.13	1
7930	013672908	DETERGENT,LAUNDRY	$178.75	11
7930	013936758	CLEANING COMPOUND,S	$177.30	2
7930	012243159	CLEANING SOLUTION,P	$176.00	22
7930	013813508	CLEANING COMPOUND,T	$169.92	12
7930	013981002	CLEANING COMPOUND,S	$168.78	2
7930	013813444	DETERGENT,GENERAL P	$167.12	2
7930	002667137	POLISH,METAL	$155.70	22
7930	009586033	CLEANING COMPOUND,S	$152.20	5
7930	005824195	DUST MOP TREATING C	$151.44	12
7930	009265173	SOAP,LAUNDRY,BUILT	$149.20	3
7930	013813365	CLEANING COMPOUND,S	$147.92	2
7930	014181235	CLEANING COMPOUND,S	$147.48	3

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
7930	012898834	ABOSORBENT MATERIAL,O	$139.71	3
7930	013808513	FINISH,FLOOR,NONBUF	$137.37	3
7930	010839779	CLEANING COMPOUND,S	$137.01	6
7930	013126389	DETERGENT LAUNDRY	$131.96	4
7930	013936623	GLASS CLEANER	$128.64	2
7930	014367886	CLEANING COMPOUND,S	$127.90	2
7930	013980891	CLEANING COMPOUND,S	$126.64	2
7930	013795753	DETERGENT,GENERAL P	$126.28	4
7930	013980943	CLEANING COMPOUND,S	$126.08	2
7930	014181240	CLEANING COMPOUND,S	$119.38	2
7930	013813360	CLEANING COMPOUND,T	$116.88	8
7930	014181332	CLEANING COMPOUND,S	$114.68	4
7930	010739870	CLEANING SOLUTION,P	$114.46	49
7930	013815921	GLASS CLEANER	$114.21	9
7930	013808406	FINISH,FLOOR,NONBUF	$111.28	2
7930	002667121	POLISH,FURNITURE	$110.91	3
7930	010750776	CLEANING COMPOUND,S	$105.84	12
7930	014231138	FINISH,FLOOR,NONBUF	$104.14	2
7930	014181148	SPECIAL ITEM	$104.08	2
7930	013815810	GLASS CLEANER	$103.25	5
7930	014122431	FINISH,FLOOR,NONBUF	$101.10	2
7930	013795378	GLASS CLEANER	$98.78	2
7930	011081454	CLEANING COMPOUND,S	$98.68	4
7930	013981007	CLEANING COMPOUND,S	$97.90	2
7930	013815841	CLEANING SOLUTION,P	$97.50	3
7930	013300187	CLEANING COMPOUND,S	$97.10	2
7930	013672964	DISHWASHING COMPOUN	$93.05	5
7930	013126387	DETERGENT,LAUNDRY	$92.50	2
7930	013808452	CLEANING COMPOUND,H	$91.32	3
7930	011770795	CLEANING COMPOUND,S	$88.44	3
7930	013980832	CLEANING COMPOUND,S	$86.28	2
7930	014181231	CLEANING COMPOUND,S	$85.02	2
7930	013738845	CLEANING COMPOUND,S	$83.08	2
7930	013798719	POLISH,METAL	$82.54	1
7930	013465280	CLEANING COMPOUND,S	$80.34	2
7930	010796968	CLEANING COMPOUND,S	$78.41	1
7930	014122436	DEICER	$77.72	2
7930	014181519	ABSORBENT MATERIAL,	$75.92	1
7930	013981027	SPECIAL ITEM	$75.28	2
7930	013813456	GLASS CLEANER	$73.88	4
7930	013980817	CLEANING SOLUTION,P	$73.78	2
7930	013808416	CLEANING COMPOUND,R	$72.80	2
7930	007535178	POLISH,AUTOMOBILE	$72.00	1
7930	013795692	DETERGENT,GENERAL P	$71.88	3
7930	014181153	CLEANING COMPOUND,S	$71.80	2
7930	013980942	CLEANING COMPOUND,S	$71.66	2
7930	009681527	DETERGENT,GENERAL P	$71.40	7
7930	014367894	ABSORBENT MATERIAL,	$68.57	1
7930	005599481	CLEANING COMPOUND,T	$66.12	39
7930	013980972	CLEANING CHEMICAL D	$65.80	1
7930	006341362	DETERGENT-GP-PDWR -FL	$65.28	3
7930	014181138	FINISH,FLOOR,NONBUF	$60.51	1
7930	001131913	CLEANING COMPOUND,R	$60.47	17
7930	013670989	GLASS CLEANER	$59.78	2
7930	013166008	ABSORBENT,MATERIAL	$59.57	1
7930	008416362	STARCH,LAUNDRY	$59.15	1
7930	013808374	CLEANING COMPOUND,H	$58.30	2
7930	013936745	GLASS CLEANER	$57.75	3
7930	014181254	POLISH,METAL	$55.02	3
7930	014122423	MULTI-SURFACE SANIT	$54.50	1
7930	014181152	CLEANING COMPOUND,S	$49.20	1

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
7930	013809028	CLEANING LUBRICANT,	$47.59	1
7930	009291221	DETERGENT,LAUNDRY	$47.25	3
7930	014108562	FINISH,FLOOR,NONBUF	$45.95	1
7930	013813473	REMOVER,NONBUFFING	$43.27	1
7930	014181499	CLEANING COMPOUND,R	$42.48	1
7930	013813503	REMOVER,NONBUFFING	$42.21	1
7930	013808478	CLEANING COMPOUND,S	$41.44	2
7930	014367966	SPECIAL ITEM	$39.85	1
7930	014181264	POLISH,METAL	$39.33	3
7930	002502619	BLUING LNDRY-LIQ-SOUR	$38.86	2
7930	013980865	RUG AND ROOM FRESHE	$38.81	1
7930	014181518	ABSORBENT MATERIAL,	$37.96	1
7930	013808450	FINISH,FLOOR,NONBUF	$37.50	1
7930	014181275	CLEANING COMPOUND,S	$37.44	3
7930	014367953	CLEANING COMPOUND,R	$37.26	1
7930	000568144	DETERGENT,GENERAL,PUR	$36.63	1
7930	013813396	FINISH,FLOOR,NONBUF	$34.38	1
7930	011041222	CLEANING COMPOUND,T	$34.08	2
7930	010145066	CLEANER	$33.90	10
7930	014181274	POLISH,FURNITURE	$31.89	1
7930	006647483	CLEANING SOLUTION,POR	$31.80	20
7930	013808520	CLEANING COMPOUND,S	$31.22	1
7930	013784559	GLASS CLEANER	$30.55	1
7930	013936638	ROOM FRESHENER	$29.81	1
7930	013813451	MULTI-SURFACE SANIT	$28.16	1
7930	013808362	RESTORER,FLOOR GLOS	$27.89	1
7930	013670987	CLEANING COMPOUND,T	$26.46	3
7930	014181267	POLISH,FURNITURE	$25.61	1
7930	014181489	POLISH,FURNITURE	$25.36	1
7930	004707700	CLEANER, HOUSEHOLD	$24.30	10
7930	013812630	REMOVER,NONBUFFING	$24.12	1
7930	013808465	REMOVER,NONBUFFING	$20.51	1
7930	014122434	DEICER	$19.95	1
7930	006340342	DETERGENT	$18.95	1
7930	002667136	POLISH,METAL	$18.62	1
7930	002052872	POLISH,SHOE	$18.58	2
7930	014181265	POLISH,FURNITURE	$18.34	1
7930	013569207	NUT	$16.00	2
7930	002797089	DETERGENT,GENERAL P	$16.00	2
7930	010394802	POLISH,GLASS	$15.78	1
7930	014181471	CLEANING COMPOUND,T	$15.51	1
7930	014181119	GLASS CLEANER	$14.49	1
7930	014181259	POLISH,METAL	$13.11	1
7930	013980979	CLEANING CHEMICAL D	$10.90	2
7930	010750775	CLEANING SOLUTION,P	$9.71	1
7930	013878923	ABSORBENT	$2.00	2
7930	009265286	STEEL GRIT	$1.92	4
7930	011154744	POLISH,PLASTIC	$0.00	12
7930	011740978	WAX,AUTOMOBILE	$0.00	3
8010	012460718	POLYURETHANE COATIN	$41,988.35	556
8010	009269174	POLYURETHANE COATING	$32,291.33	127
8010	005825382	LACQUER	$29,123.58	16658
8010	012299561	POLYURETHANE COATIN	$24,715.18	687
8010	005825318	PRIMER COATING	$20,147.40	444
8010	005985730	PAINT,LATEX	$17,899.94	431
8010	005985464	ENAMEL	$17,146.79	953
8010	005843149	LACQUER	$16,915.65	8865
8010	012297547	POLYURETHANE COATIN	$14,722.28	84
8010	006169143	ENAMEL	$14,463.64	5700
8010	003487715	ENAMEL	$12,904.08	5076
8010	012297541	POLYURETHANE COATIN	$12,793.81	436

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	011303347	POLYURETHANE COATIN	$12,689.80	168
8010	012342936	POLYURETHANE COATIN	$11,776.54	53
8010	012354164	PAINT,HEAT RESISTIN	$10,907.92	139
8010	012757966	POLYURETHANE COATIN	$10,887.50	21
8010	013316109	ENAMEL	$10,796.22	259
8010	012297544	POLYURETHANE COATIN	$10,740.78	306
8010	014415897	POLYURETHANE COATIN	$10,411.32	98
8010	012342935	POLYURETHANE COATIN	$10,274.80	281
8010	013574155	PAINT,HEAT RESISTIN	$9,652.50	56
8010	002970553	ENAMEL	$9,582.04	392
8010	001605788	THINNER,PAINT PRODU	$8,967.24	292
8010	001818079	THINNER,ALIPHATIC P	$8,507.23	286
8010	002911069	PAINT,RUBBER	$8,437.00	50
8010	012600911	POLYURETHANE COATIN	$8,410.89	139
8010	002921127	PRIMER COATING	$7,899.64	285
8010	002906984	LACQUER	$7,805.48	4108
8010	005985936	ENAMEL	$7,781.46	2869
8010	004198541	PAINT,LATEX	$7,613.74	150
8010	001182455	THINNER,EPOXY	$7,577.32	253
8010	005978198	PAINT,RUBBER	$6,881.40	60
8010	009357079	LACQUER	$6,516.13	1811
8010	001605787	THINNER,PAINT PRODU	$6,220.14	1120
8010	005977844	ENAMEL	$5,801.72	232
8010	008489272	ENAMEL	$5,774.79	2752
8010	012342934	POLYURETHANE COATIN	$5,630.45	490
8010	005843150	LACQUER	$5,422.23	3110
8010	002587087	EPOXY COATING KIT	$5,396.03	15
8010	000822450	EPOXY PRIMER COATIN	$5,337.25	152
8010	006167488	ENAMEL	$5,045.56	28
8010	012297543	POLYURETHANE COATIN	$5,025.17	467
8010	012297546	POLYURETHANE COATIN	$4,789.87	434
8010	002982298	ENAMEL	$4,530.84	132
8010	010607176	REPAIR KIT,EPOXY	$4,285.08	56
8010	001417838	COATING COMPOUND,NO	$4,015.18	202
8010	002867731	ENAMEL	$3,908.76	201
8010	010486539	EPOXY PRIMER COATIN	$3,903.60	97
8010	005270217	ENAMEL	$3,839.32	59
8010	005272045	ENAMEL	$3,829.98	79
8010	009002938	PAINT,TRAFFIC	$3,689.31	57
8010	006644761	ENAMEL	$3,687.89	124
8010	002867727	ENAMEL	$3,445.10	135
8010	013505252	ENAMEL	$3,346.88	50
8010	007219748	LACQUER	$3,314.63	55
8010	008998825	PRIMER COATING	$3,225.82	1183
8010	006410427	COATING COMPOUND,NO	$3,198.57	199
8010	013505258	ENAMEL	$3,194.72	50
8010	002906983	LACQUER	$3,194.55	1599
8010	002801751	THINNER,ALIPHATIC,P	$3,176.52	9
8010	014410162	POLYURETHANE COATIN	$3,169.95	31
8010	002008810	ENAMEL	$3,080.64	25
8010	012297540	POLYURETHANE COATIN	$3,060.72	353
8010	013853341	PAINT,LATEX	$3,051.00	60
8010	012354166	PAINT,HEAT RESISTIN	$3,028.56	42
8010	013800340	ENAMEL	$3,014.13	31
8010	013780191	POLYURETHANE COATIN	$2,982.18	24
8010	013505246	ENAMEL	$2,865.97	463
8010	011449879	POLYURETHANE COATIN	$2,846.60	20
8010	000688783	LACQUER	$2,554.20	40
8010	005843078	ENAMEL	$2,553.60	16
8010	012297542	POLYURETHANE COATIN	$2,459.32	17
8010	013316113	ENAMEL	$2,401.44	361

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	002970561	ENAMEL	$2,398.00	20
8010	012600916	POLYURETHANE COATIN	$2,388.60	36
8010	013316111	ENAMEL	$2,360.73	357
8010	009108154	ENAMEL	$2,341.14	1048
8010	005273202	ENAMEL	$2,297.12	98
8010	007219743	LACQUER	$2,238.36	1156
8010	010552319	POLYURETHANE COATIN	$2,210.12	56
8010	005985177	ENAMEL	$2,199.76	149
8010	001412952	LACQUER	$2,137.84	1068
8010	007648434	ENAMEL	$2,110.59	147
8010	013801744	POLYURETHANE COATIN	$2,071.00	25
8010	011316255	POLYURETHANE COATIN	$2,054.62	29
8010	013817319	PAINT,LATEX	$2,053.50	150
8010	008152692	PAINT,HEAT RESISTIN	$1,994.71	59
8010	011462646	POLYURETHANE COATIN	$1,990.61	47
8010	010880096	ENAMEL	$1,972.50	91
8010	002906158	LACQUER	$1,931.86	44
8010	012947135	PAINT,OIL	$1,931.38	100
8010	007219744	LACQUER	$1,927.32	854
8010	013504727	ENAMEL	$1,926.80	20
8010	014152520	PRIMER COATING	$1,872.20	16
8010	011316254	POLYURETHANE COATIN	$1,766.48	54
8010	005985460	ENAMEL	$1,749.28	73
8010	001625289	THINNER,PAINT PRODU	$1,714.60	127
8010	005774381	ENAMEL	$1,708.00	8
8010	012763638	POLYURETHANE COATIN	$1,636.10	167
8010	002516495	LACQUER	$1,629.48	61
8010	002972111	ENAMEL	$1,592.28	92
8010	002970560	ENAMEL	$1,584.04	76
8010	005985733	PAINT,LATEX	$1,581.90	190
8010	005151596	ENAMEL	$1,577.64	204
8010	006632673	SEALER,SURFACE	$1,543.50	57
8010	005978234	REMOVER,PAINT	$1,519.07	79
8010	002482839	LACQUER	$1,491.06	30
8010	005985455	LACQUER	$1,451.48	22
8010	012600914	POLYURETHANE COATIN	$1,449.60	48
8010	012763640	POLYURETHANE COATIN	$1,431.60	10
8010	001818080	THINNER,PAINT PRODU	$1,427.29	212
8010	000675437	ENAMEL	$1,389.96	621
8010	012600912	POLYURETHANE COATIN	$1,388.65	5
8010	013780188	POLYURETHANE COATIN	$1,383.66	11
8010	013966820	PAINT,TRAFFIC	$1,380.64	30
8010	012002637	THINNER,EPOXY	$1,370.39	53
8010	005985945	ENAMEL	$1,370.34	22
8010	013505248	ENAMEL	$1,361.80	220
8010	002982300	ENAMEL	$1,354.56	192
8010	000793758	ENAMEL	$1,340.34	502
8010	011462649	POLYURETHANE COATIN	$1,323.78	24
8010	014148423	EPOXY COATING KIT	$1,323.40	20
8010	002970593	PRIMER COATING	$1,305.64	510
8010	005587027	THINNER,PAINT PRODU	$1,302.28	88
8010	011930517	PRIMER COATING	$1,282.54	50
8010	014148437	EPOXY COATING KIT	$1,267.60	20
8010	005151568	LACQUER	$1,265.96	42
8010	001429279	EPOXY PRIMER COATIN	$1,262.36	200
8010	002970547	ENAMEL	$1,246.72	64
8010	005273198	ENAMEL	$1,229.58	44
8010	013973802	COATING COMPOUND,NO	$1,207.92	12
8010	012460717	POLYURETHANE COATIN	$1,188.88	22
8010	009357064	LACQUER	$1,185.22	275
8010	005977848	PAINT,OIL	$1,163.90	10

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	005272624	LACQUER	$1,155.81	21
8010	002972122	ENAMEL	$1,151.15	55
8010	009003648	PAINT,TRAFFIC	$1,148.83	16
8010	013802372	PRIMER COATING	$1,134.25	65
8010	014089236	COATING COMPOUND,AN	$1,123.82	10
8010	008529033	ENAMEL	$1,123.78	396
8010	008515525	ENAMEL	$1,120.33	17
8010	000675434	PRIMER COATING	$1,112.24	474
8010	005152487	LACQUER	$1,109.00	596
8010	013973763	STAIN	$1,099.80	60
8010	001412951	LACQUER	$1,097.36	428
8010	012121704	THINNER,EPOXY	$1,072.33	26
8010	007219751	LACQUER	$1,072.12	574
8010	001605800	REMOVER,PAINT	$1,059.09	49
8010	002863988	PAINT OIL	$1,050.00	6
8010	005272050	ENAMEL	$1,046.34	61
8010	002906648	ENAMEL	$1,046.20	10
8010	008301822	LACQUER	$1,039.23	27
8010	002970810	ENAMEL	$1,014.40	36
8010	013973807	COATING COMPOUND,NO	$994.50	10
8010	002867737	ENAMEL	$983.76	49
8010	001661688	LACQUER	$978.96	61
8010	005774524	LACQUER	$973.23	15
8010	009356609	LACQUER	$967.76	250
8010	008531859	ENAMEL	$962.67	28
8010	013504747	ENAMEL	$941.12	130
8010	005985159	LACQUER	$939.50	25
8010	002867838	ENAMEL	$933.60	64
8010	006167486	ENAMEL	$933.32	24
8010	006347320	LACQUER	$926.40	20
8010	007219746	LACQUER	$924.89	402
8010	011625578	POLYURETHANE COATIN	$924.40	20
8010	007219479	LACQUER	$919.91	447
8010	000793752	ENAMEL	$919.82	407
8010	001663164	LACQUER	$912.59	53
8010	001335901	ENAMEL	$904.63	246
8010	013446694	ENAMEL,YELLOW	$901.00	4
8010	000688779	LACQUER	$894.50	25
8010	002869088	ENAMEL	$893.54	10
8010	002972112	ENAMEL	$883.96	41
8010	002466443	TURPENTINE	$854.76	70
8010	006410426	COATING COMPOUND,NO	$846.78	46
8010	007219742	LACQUER	$846.77	421
8010	002867758	ENAMEL	$837.42	51
8010	013842992	ENAMEL	$830.70	10
8010	002970802	ENAMEL	$830.45	25
8010	011462648	POLYURETHANE COATIN	$825.00	7
8010	000792754	LACQUER	$823.06	14
8010	005270216	ENAMEL	$817.40	60
8010	001711509	LACQUER	$816.73	23
8010	012297545	POLYURETHANE COATIN	$816.10	5
8010	004184668	PAINT,LATEX	$812.16	16
8010	001656111	LACQUER	$811.94	21
8010	008237962	PAINT,LATEX	$805.97	77
8010	005152208	PRIMER COATING	$786.06	21
8010	002970568	ENAMEL	$762.54	34
8010	006641914	LACQUER	$762.44	257
8010	013973809	ENAMEL	$751.04	8
8010	002982302	ENAMEL	$731.72	108
8010	002972102	PAINT,RUBBER	$722.65	7
8010	012763639	POLYURETHANE COATIN	$709.08	23

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	011606742	POLYURETHANE COATIN	$703.88	4
8010	002516503	LACQUER	$702.24	48
8010	010504082	EPOXY PRIMER COATIN	$699.78	62
8010	001429273	REMOVER,PAINT	$695.32	68
8010	009901542	PAINT,TRAFFIC	$691.35	12
8010	005305566	ENAMEL	$690.80	28
8010	002972105	ENAMEL	$682.50	26
8010	013162550	EPOXY COATING KIT	$678.24	16
8010	002263906	PAINT,STENCIL	$678.24	33
8010	012936182	POLYURETHANE COATING	$675.80	10
8010	001615722	LACQUER	$672.03	35
8010	009264727	REMOVER,PAINT	$660.23	29
8010	000822421	COATING COMPOUND,FL	$657.92	16
8010	005824743	PAINT RUBBER	$630.48	271
8010	013966801	ENAMEL	$630.00	6
8010	013275403	PAINT,HEAT RESISTIN	$617.40	6
8010	011412420	POLYURETHANE COATIN	$616.52	22
8010	011449877	POLYURETHANE COATIN	$612.60	4
8010	002575377	LACQUER	$610.92	60
8010	010704550	SHELLAC,CUT	$603.44	12
8010	002970567	ENAMEL	$599.50	55
8010	005978226	STAIN	$597.72	102
8010	005843148	LACQUER	$584.23	295
8010	013275404	PAINT,HEAT RESISTIN	$581.76	6
8010	002426315	LACQUER	$580.32	31
8010	008897345	ENAMEL	$554.77	53
8010	009588147	LACQUER	$542.64	159
8010	008785761	ENAMEL	$538.24	233
8010	014416030	PRIMER COATING	$536.16	48
8010	013800390	VARNISH	$530.75	25
8010	001412950	LACQUER	$529.06	262
8010	001656140	LACQUER	$528.24	31
8010	002972005	ENAMEL	$526.90	5
8010	002970555	ENAMEL	$516.80	24
8010	001182456	EPOXY COATING KIT	$511.00	4
8010	011879820	PRIMER COATING	$508.40	5
8010	001654447	REMOVER,PAINT	$504.55	5
8010	012187354	EPOXY PRIMER COATIN	$496.32	8
8010	012352693	PAINT,HEAT RESISTIN	$488.70	15
8010	013323745	ENAMEL	$485.37	73
8010	013801773	ENAMEL	$482.28	71
8010	002970569	ENAMEL	$479.60	4
8010	013966818	PAINT,TRAFFIC	$479.40	10
8010	001656141	LACQUER	$474.31	15
8010	002972119	ENAMEL	$467.55	21
8010	011449885	POLYURETHANE COATIN	$466.50	24
8010	005273197	ENAMEL	$464.56	20
8010	002970585	ENAMEL	$464.15	17
8010	007219749	LACQUER	$460.07	243
8010	002970570	ENAMEL	$457.76	16
8010	001412958	LACQUER	$452.48	230
8010	006633036	LACQUER	$446.80	20
8010	002910599	PAINT,OIL	$442.22	31
8010	002867725	ENAMEL	$440.05	5
8010	014341268	ENAMEL	$438.75	5
8010	013337762	ENAMEL	$436.10	24
8010	013245087	ENAMEL	$433.72	14
8010	005978199	PAINT,RUBBER	$432.09	3
8010	009588148	LACQUER	$427.40	140
8010	011606744	POLYURETHANE COATIN	$425.64	39
8010	009652389	LACQUER	$421.39	11

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	011412416	POLYURETHANE COATIN	$416.25	27
8010	011449873	POLYURETHANE COATIN	$414.51	3
8010	013505249	ENAMEL	$408.54	66
8010	005843077	ENAMEL	$401.76	12
8010	006164009	PAINT,HEAT RESISTIN	$399.96	5
8010	002812075	STAIN	$398.92	28
8010	013682632	PRIMER COATING	$396.30	10
8010	009357065	LACQUER	$391.30	5
8010	006643365	ENAMEL	$390.28	14
8010	006167487	ENAMEL	$389.90	2
8010	005985470	ENAMEL	$384.48	72
8010	013323739	ENAMEL	$380.40	88
8010	009357174	POLYURETHANE COATIN	$372.91	1
8010	009881458	ENAMEL	$372.12	152
8010	000555100	PAINT,LATEX	$371.20	36
8010	002869072	PAINT,TRAFFIC	$370.80	30
8010	002970564	ENAMEL	$370.72	8
8010	001817568	REMOVER,PAINT	$370.21	27
8010	013966760	ENAMEL	$368.20	20
8010	002212775	LACQUER	$364.80	48
8010	011656760	THINNER,LACQUER	$361.34	14
8010	001417842	COATING COMPOUND,NO	$360.04	20
8010	013316108	ENAMEL	$354.43	53
8010	008237964	PAINT,LATEX	$353.73	37
8010	013360524	ENAMEL	$353.20	20
8010	000405954	PAINT LATEX	$352.00	40
8010	008465117	ENAMEL	$349.48	161
8010	013633375	ENAMEL	$348.18	6
8010	013279982	THINNER,PAINT PRODU	$347.04	6
8010	001605789	THINNER,PAINT PRODU	$332.97	1
8010	013565170	POLYURETHANE COATING	$327.60	6
8010	013966824	PAINT,TRAFFIC	$321.35	3
8010	009857029	PRIMER COATING	$321.30	6
8010	002982296	ENAMEL	$319.00	12
8010	002482838	LACQUER	$318.24	52
8010	007219483	LACQUER	$316.50	134
8010	013754549	POLYURETHANE COATIN	$315.20	8
8010	000810809	ENAMEL	$314.80	28
8010	002982294	ENAMEL	$314.58	7
8010	002982292	ENAMEL	$313.71	15
8010	006640019	COATING COMPOUND KI	$311.37	1
8010	008377964	STAIN	$310.08	19
8010	011303346	POLYURETHANE COATIN	$308.76	4
8010	007219747	LACQUER	$307.23	156
8010	009357069	LACQUER	$304.80	12
8010	014185421	ENAMEL	$304.65	15
8010	013323742	ENAMEL	$302.40	70
8010	014191147	EPOXY COATING KIT	$300.06	9
8010	009357085	LACQUER	$298.62	71
8010	013966763	ENAMEL	$289.20	15
8010	006169181	PRIMER COATING	$288.42	144
8010	005985465	PAINT,OIL	$287.76	12
8010	013599245	PRIMER COATING	$283.04	8
8010	008486424	ENAMEL	$277.75	10
8010	013754546	POLYURETHANE COATIN	$275.80	7
8010	007799598	ENAMEL	$267.98	38
8010	013337759	ENAMEL	$267.60	24
8010	005799201	ENAMEL	$267.57	19
8010	009487388	ENAMEL	$265.20	13
8010	009357156	ENAMEL	$262.94	122
8010	013966769	ENAMEL	$262.80	12

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	000822598	PAINT TRAFFIC	$254.32	4
8010	002982304	ENAMEL	$254.28	12
8010	014342118	POLYURETHANE COATIN	$251.40	2
8010	012947778	PAINT,OIL	$245.28	12
8010	013966784	PAINT,OIL	$244.56	12
8010	009261488	REMOVER,PAINT	$244.32	4
8010	009262135	FILLER DENT METAL	$243.80	10
8010	001605798	REMOVER,PAINT	$242.22	12
8010	000793754	ENAMEL	$240.00	96
8010	009011059	ENAMEL	$239.80	10
8010	000091757	PAINT,LATEX	$237.60	20
8010	010532650	EPOXY COATING KIT	$229.40	20
8010	005273201	ENAMEL	$228.44	4
8010	011707583	POLYURETHANE COATIN	$228.12	10
8010	007219752	LACQUER	$227.43	117
8010	014185449	PAINT,OIL	$225.00	9
8010	014185427	ENAMEL	$224.72	8
8010	010191776	PAINT,TRAFFIC	$224.34	3
8010	006647651	LACQUER	$224.08	8
8010	001523245	LINSEED OIL,BOILED	$223.40	20
8010	013340911	ENAMEL	$220.94	2
8010	013966822	PAINT,TRAFFIC	$220.30	5
8010	005273199	ENAMEL	$214.50	26
8010	005587026	THINNER,PAINT PRODU	$208.39	13
8010	006167816	ENAMEL	$204.56	8
8010	009357062	LACQUER	$203.32	4
8010	013504746	ENAMEL	$202.69	28
8010	014265487	POLYURETHANE COATIN	$202.44	7
8010	009002940	PAINT,TRAFFIC	$202.28	3
8010	014415853		$201.18	2
8010	006647465	VARNISH,OIL	$200.26	7
8010	013966803	SPECIAL ITEM	$196.00	4
8010	014185424	ENAMEL	$195.90	10
8010	005432085	LACQUER,ACRYLIC	$195.02	7
8010	013505260	ENAMEL	$194.98	3
8010	011449872	POLYURETHANE COATIN	$193.55	5
8010	013817302	PAINT,LATEX	$193.50	3
8010	008352114	PRIMER COATING	$190.75	7
8010	012600922	POLYURETHANE COATIN	$190.47	3
8010	013803251	ENAMEL	$189.88	8
8010	002575378	LACQUER	$188.70	51
8010	009018040	ENAMEL	$188.00	10
8010	013973820	COATING COMPOUND,NO	$185.10	2
8010	002972120	ENAMEL	$184.05	9
8010	007534549	ENAMEL	$182.80	8
8010	008990931	PRIMER COATING	$180.45	15
8010	001426525	COATING COMPOUND,NO	$180.08	9
8010	006410428	COATING COMPOUND,NO	$179.28	8
8010	013339449	ENAMEL	$176.60	10
8010	013809534	ENAMEL	$175.14	9
8010	000675436	ENAMEL	$172.04	68
8010	013800349	PAINT,OIL	$171.59	8
8010	007219750	LACQUER	$171.35	85
8010	014185440	ENAMEL	$168.30	10
8010	001806343	VARNISH,OIL	$165.92	8
8010	000453478	PAINT,LATEX	$165.60	20
8010	013363981	ENAMEL	$164.58	26
8010	001817371	ENAMEL	$163.85	59
8010	005821517	ENAMEL	$163.52	8
8010	013373969	ENAMEL	$162.00	24
8010	013316118	ENAMEL	$162.00	24

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	007946807	ENAMEL	$161.28	7
8010	005843154	LACQUER	$160.95	75
8010	001817791	LACQUER	$160.56	36
8010	014185445	ENAMEL	$157.68	2
8010	013803279	POLYURETHANE COATIN	$156.96	2
8010	005272623	ENAMEL	$156.47	13
8010	013323744	ENAMEL	$155.52	36
8010	002910601	PAINT,OIL	$155.32	2
8010	005985927	ENAMEL	$150.22	6
8010	008152970	REMOVER,PAINT	$150.00	4
8010	001178714	ENAMEL	$149.76	9
8010	014191170	EPOXY COATING KIT	$148.80	4
8010	011412419	POLYURETHANE COATIN	$148.30	14
8010	013521496	CLEANER,ALL-PURPOSE	$146.50	2
8010	014185444	ENAMEL	$142.24	8
8010	002692536	PRIMER COATING	$141.84	6
8010	013631631	ENAMEL	$138.44	2
8010	001663147	LACQUER	$138.24	12
8010	007332196	ENAMEL	$135.06	6
8010	000793750	ENAMEL	$131.76	54
8010	002426319	LACQUER	$131.60	3
8010	000793760	ENAMEL	$130.00	50
8010	002812072	STAIN	$128.07	9
8010	005999201	COATING COMPOUND,NO	$127.68	7
8010	014415940	THINNER,PAINT PRODU	$127.20	24
8010	005987211	ENAMEL	$125.34	2
8010	011671139	ENAMEL	$124.40	60
8010	013966757	ENAMEL	$122.96	4
8010	014415932	SPECIAL ITEM	$122.80	4
8010	008411242	ENAMEL	$119.45	5
8010	008357215	LACQUER	$118.14	48
8010	006647048	PAINT,TRAFFIC	$117.94	2
8010	014191154	EPOXY COATING KIT	$117.92	4
8010	009588150	LACQUER	$116.25	25
8010	000603253	PIGMENT,PAINT PRODU	$116.10	1
8010	013162221	POLYURETHANE COATIN	$115.12	8
8010	013803239	SPECIAL ITEM	$115.08	1
8010	013803293	PAINT,LATEX	$114.33	3
8010	014415941	THINNER,PAINT PRODU	$113.90	5
8010	002812076	STAIN	$113.84	8
8010	002972114	ENAMEL	$113.72	3
8010	013966775	PAINT,OIL	$110.76	4
8010	000688778	LACQUER	$109.80	2
8010	009269129	STAIN	$109.68	11
8010	000836588	LACQUER	$109.50	1
8010	011606741	POLYURETHANE COATIN	$108.63	9
8010	001658569	SEALER,SURFACE	$108.06	6
8010	005977856	VARNISH,OIL	$106.04	4
8010	013800341	PAINT,OIL	$104.19	1
8010	013973984	COATING COMPOUND,NO	$104.01	1
8010	013365064	ENAMEL	$103.25	25
8010	013966781	PAINT,OIL	$101.65	5
8010	001660746	STAIN	$99.61	7
8010	005978225	STAIN	$98.34	7
8010	013966761	ENAMEL	$98.12	4
8010	001655540	THINNER,PAINT PRODU	$97.57	38
8010	014191159	EPOXY COATING KIT	$97.34	1
8010	002972012	ENAMEL,HEAT RESISTI	$96.96	4
8010	014185429	ENAMEL	$95.70	5
8010	008528013	PRIMER COATING	$95.00	4
8010	002972101	PAINT,STENCIL	$93.69	3

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	007829356	ENAMEL	$93.60	39
8010	001658628	STAIN	$92.64	16
8010	013973644	POLYURETHANE COATIN	$92.40	3
8010	005843362	PAINT,RUBBER	$92.36	4
8010	005272053	ENAMEL	$90.63	19
8010	000850559	LACQUER	$90.60	33
8010	006878191	PRIMER COATING	$90.08	4
8010	013966788	PAINT,LATEX	$90.00	5
8010	013973575	LACQUER	$89.04	4
8010	005985932	ENAMEL	$88.20	3
8010	006167503	LACQUER	$87.88	4
8010	002970586	ENAMEL	$87.80	4
8010	005305563	ENAMEL	$87.44	4
8010	013802417	PAINT LATEX	$87.20	2
8010	013800332	PAINT,OIL	$87.09	1
8010	012947776	PAINT,OIL	$86.98	1
8010	002982295	ENAMEL	$85.48	4
8010	013817300	PAINT,LATEX	$85.05	7
8010	012037803	ENAMEL	$84.75	15
8010	013339830	ENAMEL	$84.16	8
8010	005262523	PRIMER COATING	$83.93	1
8010	002972014	ENAMEL,HEAT RESISTI	$83.04	4
8010	002854936	PAINT,STENCIL	$82.52	2
8010	013966758	ENAMEL	$81.92	4
8010	013802421	PAINT,LATEX	$81.75	3
8010	006647468	PAINT,HEAT RESISTIN	$81.75	7
8010	010708443	SHELLAC,CUT	$81.27	3
8010	009356608	LACQUER	$80.50	2
8010	013504763	ENAMEL	$80.47	13
8010	002854916	PAINT,STENCIL	$79.85	5
8010	013687782	PAINT OIL	$78.88	4
8010	013802361	PAINT,LATEX	$78.20	8
8010	008835329	LACQUER	$77.28	36
8010	005799199	PAINT,LATEX	$77.00	10
8010	013316120	ENAMAL	$76.96	13
8010	013316122	ENAMEL	$76.83	13
8010	002422089	THINNER,PAINT PRODU	$76.02	19
8010	012933015	POLYURETHANE, COATING	$75.60	4
8010	004907650	LACQUER	$75.19	1
8010	009003650	PAINT,TRAFFIC	$74.82	1
8010	009588151	LACQUER	$74.36	22
8010	006647047	PAINT,TRAFFIC	$73.77	1
8010	002970590	ENAMEL	$73.70	3
8010	007823892	LACQUER	$73.50	2
8010	000871953	THINNER,PAINT PRODU	$71.40	30
8010	002867836	ENAMEL	$71.31	1
8010	001654422	STAIN	$70.32	12
8010	014191153	EPOXY COATING KIT	$69.92	4
8010	007825556	COATING COMPOUND,NO	$69.42	3
8010	011930516	PRIMER COATING	$67.83	7
8010	013817318	PAINT,LATEX	$67.80	6
8010	002854863	ENAMEL	$67.68	4
8010	000822479	LACQUER	$67.23	9
8010	000793762	ENAMEL	$67.20	24
8010	001658627	STAIN	$66.96	12
8010	013966762	ENAMEL	$66.72	4
8010	013339816	ENAMEL	$65.70	6
8010	006410429	COATING COMPOUND,NO	$64.71	3
8010	001605852	VARNISH,OIL	$63.72	3
8010	002829414	PRIMER COATING	$63.02	4
8010	013504764	ENAMEL	$62.88	1

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	013966785	PAINT,LATEX	$62.22	6
8010	014184501	ENAMEL	$61.88	1
8010	013323743	ENAMEL	$60.75	9
8010	013852615	PAINT,LATEX	$60.15	5
8010	013800355	VARNISH	$60.08	4
8010	009652390	LACQUER	$58.79	1
8010	002614160	TURPENTINE	$58.33	11
8010	002901180	TURPENTINE	$58.15	1
8010	000870107	ENAMEL	$57.70	5
8010	013974407	ENAMEL	$57.65	1
8010	001661700	LACQUER	$56.60	4
8010	002257961	ENAMEL	$55.95	3
8010	013138702	EPOXY COATING KIT	$55.88	2
8010	002970552	ENAMEL	$55.80	4
8010	005987669	STAIN	$55.24	4
8010	012478885	POLYURETHANE COATIN	$54.50	1
8010	009652391	LACQUER	$53.28	24
8010	009652507	COATING COMPOUND,AN	$52.50	1
8010	006645678	ENAMEL	$51.88	2
8010	013365059	ENAMEL	$51.84	12
8010	009418712	LACQUER	$51.84	24
8010	014191142	EPOXY COATING KIT	$51.20	2
8010	011449883	POLYURETHANE COATIN	$49.05	5
8010	009357080	EPOXY PRIMER COATIN	$48.85	5
8010	013819444	PAINT,LATEX	$48.60	4
8010	013973825	VARNISH,OIL	$47.85	3
8010	013852603	PAINT,LATEX	$47.84	4
8010	009437128	REMOVER,PAINT	$46.47	3
8010	001394367	EPOXY PRIMER COATIN	$46.40	1
8010	011278908	POLYURETHANE COATIN	$45.34	1
8010	005985929	ENAMEL	$44.90	2
8010	005843081	ENAMEL	$44.00	2
8010	014352128	ENAMEL	$42.60	2
8010	014188322	ENAMEL	$42.00	2
8010	013343002	ENAMEL	$42.00	2
8010	014416026	POLYURETHANE COATIN	$41.80	4
8010	009652392	LACQUER	$41.80	16
8010	014416006	POLYURETHANE COATIN	$41.80	4
8010	014416028	POLYURETHANE COATIN	$41.80	4
8010	014416029	POLYURETHANE COATIN	$41.80	4
8010	014416003	POLYURETHANE COATIN	$41.80	4
8010	014416031	PRIMER COATING	$41.80	4
8010	006801996	BEADS,RETRO-DIRECTI	$41.40	2
8010	013800357	PAINT,OIL	$41.10	2
8010	013973557	LACQUER	$39.78	2
8010	009357077	LACQUER	$38.52	1
8010	002516501	LACQUER	$37.30	1
8010	007645625	REPAIR KIT EPOXY 400	$37.22	1
8010	014187184	ENAMEL	$36.52	2
8010	013810604	ENAMEL	$36.52	2
8010	009357060	LACQUER	$36.00	1
8010	014185426	ENAMEL	$35.92	2
8010	005517934	LACQUER	$33.84	6
8010	013316106	ENAMAL	$33.75	5
8010	007021053	LACQUER	$33.36	12
8010	002854933	PAINT,STENCIL	$32.75	1
8010	008515524	ENAMEL	$31.98	6
8010	014185430	ENAMEL	$31.84	2
8010	000793756	ENAMEL	$29.16	12
8010	006641414	PIGMENT,PAINT PRODU	$28.59	3
8010	007219745	LACQUER	$28.50	10

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8010	013763704	POLYURETHANE COATIN	$27.50	1
8010	011449886	POLYURETHANE COATIN	$27.25	1
8010	013852622	PAINT,LATEX	$27.00	3
8010	013973850	STAIN	$26.78	2
8010	013316107	ENAMEL	$25.77	4
8010	007219487	LACQUER	$25.20	10
8010	013817303	PAINT,LATEX	$24.98	2
8010	013800367	PAINT,OIL	$23.87	1
8010	013973599	LACQUER	$22.98	1
8010	013809540	ENAMEL	$22.66	1
8010	014083833	ENAMEL	$22.29	3
8010	012354165	PAINT,HEAT RESISTIN	$22.20	1
8010	000598822	PRIMER COATING	$21.89	1
8010	002982287	ENAMEL	$21.72	1
8010	002466112	THINNER,PAINT PRODU	$21.40	5
8010	013966776	PAINT,OIL	$20.90	1
8010	013339826	ENAMEL	$20.88	2
8010	014187175	ENAMEL	$20.33	1
8010	013973587	LACQUER	$20.12	1
8010	002426318	LACQUER	$19.39	1
8010	009018042	ENAMEL	$18.69	1
8010	001516422	PAINT,LATEX	$18.44	2
8010	013800380	ENAMEL	$18.19	1
8010	013360529	ENAMEL	$17.55	1
8010	013973760	STAIN	$16.43	1
8010	013973971	POLYURETHANE COATIN	$16.35	1
8010	002147241	PRIMER COATING	$14.98	2
8010	011462650	POLYURETHANE COATIN	$14.44	1
8010	002812074	STAIN	$14.30	1
8010	013316110	ENAMEL	$13.50	2
8010	013973849	STAIN	$13.22	2
8010	008529034	ENAMEL	$12.30	5
8010	013973881	SEALER,SURFACE	$12.19	1
8010	013852613	PAINT,LATEX	$12.03	1
8010	000669438	LACQUER	$12.00	12
8010	002812077	STAIN	$11.72	2
8010	000870102	ENAMEL	$11.70	1
8010	013817320	PAINT,LATEX	$11.70	1
8010	013817313	PAINT,LATEX	$11.30	1
8010	013819413	PAINT,LATEX	$11.30	1
8010	013819406	PAINT,LATEX	$11.30	1
8010	013505259	ENAMEL	$10.90	2
8010	013966789	PAINT,LATEX	$10.87	1
8010	013506258	ENAMEL	$10.84	2
8010	013339829	ENAMEL	$10.22	1
8010	008666810	PAINT,EPOXY	$9.90	1
8010	008391439	PAINT,HEAT, RESISTING	$9.00	9
8010	000691266	ENAMEL	$9.00	2
8010	013599246	ENAMEL	$7.34	1
8010	013504758	ENAMEL	$6.19	1
8010	013365061	ENAMEL	$6.05	1
8010	010880102	LACQUER	$4.00	4
8010	006633017	LACQUER	$1.54	1
8010	001519979	EPOXY COATING KIT	$0.00	2
8030	013504984	SEALING COMPOUND	$29,471.99	747
8030	002812346	PRESERVATIVE COATIN	$14,509.52	115
8030	008718489	SEALING COMPOUND	$9,561.80	32
8030	007232746	SEALING COMPOUND	$9,029.54	1269
8030	013321557	CORROSION RESISTANT	$8,361.94	15
8030	011032868	SEALING COMPOUND	$8,197.47	4245
8030	008913113	SEALER	$6,805.02	12

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8030	012825626	PRESERVATIVE COATIN	$6,124.37	143
8030	001169255	WATER REPELLENT COM	$5,701.28	634
8030	001489833	SEALING COMPOUND	$5,563.22	337
8030	012623560	SEALING COMPOUND	$5,448.96	176
8030	002523391	SEALING COMPOUND	$4,898.41	975
8030	004334145	SEALING COMPOUND	$4,794.81	144
8030	000087200	SEALING COMPOUND	$4,649.44	68
8030	009652437	SEALING COMPOUND	$4,340.96	86
8030	002460931	SEALING COMPOUND	$3,710.15	243
8030	014089446	WATER REPELLENT COM	$3,674.32	34
8030	000087196	SEALING COMPOUND	$3,645.33	127
8030	013743504	SEALING COMPOUND	$3,600.78	126
8030	002512312	ADHESIVE	$3,592.26	42
8030	002758117	SEALING COMPOUND	$3,581.06	99
8030	014189008	CORROSION PREVENTIV	$3,559.21	769
8030	013952726	SEALING COMPOUND	$3,469.97	82
8030	000087198	SEALING COMPOUND	$3,350.64	126
8030	012685917	SEALING COMPOUND	$3,140.36	192
8030	001806150	SEALING COMPOUND	$2,914.04	221
8030	006646146	ANTISEIZE COMPOUND	$2,790.72	113
8030	006850915	SEALING COMPOUND	$2,597.97	207
8030	009381947	CORROSION PREVENTIV	$2,479.68	437
8030	008893535	TAPE,ANTISEIZING	$2,474.68	4514
8030	011053755	SEALING COMPOUND	$2,468.50	10
8030	010540740	SEALING COMPOUND	$2,367.55	99
8030	005468637	CORROSION PREVENTIV	$2,322.35	380
8030	011376964	SEALING COMPOUND	$2,314.53	78
8030	000801549	SEALING COMPOUND	$2,195.70	166
8030	013149359	SEALING COMPOUND	$2,075.28	30
8030	004081137	SEALING COMPOUND	$2,060.31	1347
8030	005261605	CORROSION PREVENTIV	$2,055.90	41
8030	009262135	FILLER DENT METAL	$2,024.80	80
8030	002758110	SEALING COMPOUND	$1,973.72	53
8030	013465336	ANTISEIZE COMPOUND	$1,666.00	14
8030	007534599	SEALING COMPOUND	$1,607.60	334
8030	011549253	SEALING COMPOUND	$1,599.64	50
8030	013742338	SEALING COMPOUND	$1,553.60	40
8030	011871791	TAPE,TEFLON	$1,543.80	175
8030	007628807	SEALING COMPOUND	$1,468.22	31
8030	013470979	CORROSION PREVENTIV	$1,436.16	193
8030	009262133	FILLER,DENT,METAL S	$1,388.39	165
8030	000878630	ANTISEIZE COMPOUND	$1,381.61	176
8030	002905141	COATING COMPOUND,BI	$1,361.59	32
8030	001806339	CALKING COMPOUND	$1,338.41	526
8030	014500214	SEALANT,VACUUM BAG	$1,225.30	10
8030	010251692	SEALING COMPOUND	$1,216.06	108
8030	011549249	SEALING COMPOUND	$1,158.00	40
8030	001050270	ANTISEIZE COMPOUND	$1,110.45	55
8030	012981346	REMOVER,GASKET	$1,038.03	121
8030	011045392	SEALING COMPOUND	$1,007.66	39
8030	012129622	LOCKNUT,TUBE FITTIN	$989.82	282
8030	013706234	RUST ARRESTING COAT	$970.10	10
8030	014384093	CORROSION PREVENTIV	$927.05	31
8030	000087205	SEALING COMPOUND	$912.45	33
8030	011250055	SEALING COMPOUND	$905.73	599
8030	002472525	SEALING COMPOUND	$879.12	176
8030	011549247	SEALING COMPOUND	$873.54	22
8030	000676744	SEALING COMPOUND	$855.03	92
8030	007535006	SEALING COMPOUND	$841.30	230
8030	001429738	SEALING COMPOUND	$823.36	8
8030	007843475	ANTISEIZE COMPOUND	$807.21	9

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8030	011432702	SEALING COMPOUND	$771.15	517
8030	000087207	SEALING COMPOUND	$706.42	26
8030	008428127	SEALING COMPOUND	$699.60	15
8030	006561426	SEALING COMPOUND	$694.58	116
8030	009647537	SEALING COMPOUND	$693.49	67
8030	010777674	SEALING COMPOUND	$672.81	446
8030	010668156	SEALING COMPOUND	$667.29	445
8030	001429718	SEALING COMPOUND	$658.16	8
8030	005997753	SEALING COMPOUND	$651.11	78
8030	001805931	SEALING COMPOUND	$624.98	15
8030	000095023	SEALING COMPOUND	$601.20	20
8030	011717628	SEALING COMPOUND	$589.20	40
8030	014189005	CORROSION PREVENTIV	$584.42	15
8030	008893534	TAPE,ANTISEIZING	$580.80	1074
8030	005798453	SEALING COMPOUND	$580.03	12
8030	006644968	PUTTY	$570.96	4
8030	001112763	SEALING COMPOUND	$568.94	27
8030	000812329	SEALING COMPOUND	$560.66	58
8030	014147423	CORROSION PREVENTIV	$551.81	7
8030	012991762	SEALING COMPOUND	$540.88	164
8030	013142213	PRESERVATIVE COATING	$504.96	24
8030	014189007	CORROSION PREVENTIV	$501.15	13
8030	002441297	CORROSION PREVENTIV	$500.58	38
8030	006523562	SEALING COMPOUND	$490.40	10
8030	009355816	PRIMER,SEALING COMP	$490.00	10
8030	007535005	SEALING COMPOUND	$471.36	112
8030	011660675	SEALING COMPOUND	$463.20	40
8030	008918358	SEALING COMPOUND	$447.20	47
8030	006647088	FILLER,WOOD	$430.72	64
8030	002472524	SEALING COMPOUND	$430.12	122
8030	011633483	SEALING COMPOUND	$423.81	285
8030	006169191	SEALING COMPOUND	$422.63	91
8030	002627358	CORROSION PREVENTIV	$407.20	5
8030	010445034	ANTISEIZE COMPOUND	$403.61	48
8030	011922807	SEALING COMPOUND	$392.07	21
8030	011056786	SEALING COMPOUND	$386.53	9
8030	001817603	SEALING COMPOUND	$375.00	168
8030	001450151	COATING COMPOUND,PL	$368.55	15
8030	005975367	ANTISEIZE COMPOUND	$349.20	63
8030	006708553	SEALING COMPOUND	$348.65	25
8030	007794699	CORROSION RESISTANT	$345.52	28
8030	000650957	CORROSION RESISTANT	$339.68	70
8030	009056818	SEALING COMPOUND	$331.22	44
8030	000812339	SEALING COMPOUND	$329.79	31
8030	006826422	CALKING COMPOUND	$327.20	10
8030	010139305	SEALING COMPOUND	$322.20	30
8030	013871127	SEALING COMPOUND	$321.92	4
8030	009996313	SEALING COMPOUND	$321.20	140
8030	001449658	EPOXY RESIN	$318.64	13
8030	005434384	SEALING COMPOUND	$316.47	7
8030	000819022	SEALING COMPOUND	$313.44	88
8030	000822508	PRIMER,SEALING COMP	$309.23	106
8030	008113723	CORROSION RESISTANT	$297.11	11
8030	003390310	SEALING COMPOUND	$291.90	9
8030	007535007	SEALING COMPOUND	$290.40	74
8030	000514011	SEALING COMPOUND	$286.00	40
8030	000626950	CORROSION PREVENTIV	$283.99	59
8030	008782063	SEALING COMPOUND	$283.28	1
8030	002433285	ANTISEIZE COMPOUND	$279.72	29
8030	001333164	SEALING COMPOUND	$278.95	70
8030	000812335	SEALING COMPOUND	$268.56	36

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8030	010728123	ANTISEIZE COMPOUND	$267.85	2
8030	002812337	SEALING COMPOUND	$267.19	47
8030	013030502	SEALING COMPOUND	$265.65	6
8030	002515048	CORROSION PREVENTIV	$261.68	16
8030	002812726	COATING COMPOUND,ME	$251.66	13
8030	009002373	PRIMER,SEALING COMP	$249.75	91
8030	002441296	CORROSION PREVENTIVE	$249.60	20
8030	008505717	SEALING COMPOUND	$228.10	17
8030	001658577	COATING COMPOUND,ME	$224.85	3
8030	011591583	SEALING COMPOUND	$222.24	52
8030	001520013	SEALING COMPOUND	$219.26	41
8030	001742597	SEALING COMPOUND	$213.80	4
8030	008376557	CORROSION PREVENTIV	$213.39	43
8030	008813933	SEALING COMPOUND	$211.25	29
8030	001371671	CORROSION PREVENTIVE	$209.92	4
8030	013955474	SEALING COMPOUND	$205.44	8
8030	011346513	CORROSION PREVENTIV	$204.06	38
8030	014390681	CORROSION PREVENTIV	$201.60	4
8030	013470975	SEALING COMPOUND	$200.00	4
8030	013922927	RUST CONVERTING COA	$194.28	12
8030	011831721	SEALANT VACUUM BAG	$193.50	45
8030	013234503	SEALING COMPOUND	$192.34	68
8030	002441293	CORROSION PREVENTIV	$192.00	4
8030	010263306	SEALING COMPOUND	$191.65	5
8030	010151550	CORROSION PREVENTIV	$187.85	17
8030	000812333	SEALING COMPOUND	$182.67	16
8030	014368318	CALKING COMPOUND	$182.00	2
8030	012878356	SEALING COMPOUND	$180.10	10
8030	011567567	SEALING COMPOUND	$178.22	1
8030	002513980	ANTISEIZE COMPOUND	$177.93	63
8030	007535009	SEALING COMPOUND	$176.60	42
8030	012447179	ANTISEIZE COMPOUND	$175.80	10
8030	000604566	FLAME ARRESTER,VENT	$175.00	2
8030	011586070	SEALING COMPOUND	$173.56	52
8030	013470965	RUST ARRESTING COAT	$171.10	2
8030	007235345	SEALING COMPOIND	$169.20	7
8030	011922492	SEALING COMPOUND	$163.50	25
8030	001817529	SEALING COMPOUND	$159.24	12
8030	010543968	SEALING COMPOUND	$155.90	8
8030	000087204	SEALING COMPOUND	$154.08	6
8030	010873589	SEALING COMPOUND	$151.48	16
8030	001429133	SEALING COMPOUND	$146.70	2
8030	002312345	CORROSION PREVENTIV	$143.97	13
8030	011542327	ANTI-ABRASIVE COMPO	$140.00	5
8030	013470964	SEALING COMPOUND	$138.05	15
8030	006019496	SEALING COMPOUND	$136.68	17
8030	001742599	SEALING COMPOUND	$134.40	8
8030	000574109	SEALING COMPOUND	$134.40	24
8030	000812340	SEALING COMPOUND	$131.89	59
8030	001818372	PRIMER, SEALING COM	$130.92	30
8030	001236955	SEALING COMPOUND	$129.58	2
8030	009652004	SEALING COMPOUND	$127.22	19
8030	014384109	SEALING COMPOUND	$125.76	12
8030	001656547	SEALING COMPOUND	$120.42	6
8030	013470967	CLEANING COMPOUND,A	$118.48	2
8030	001635792	SEALING COMPOUND	$117.00	1
8030	002921102	ANTISEIZE COMPOUND	$113.76	24
8030	012201440	SEALING COMPOUND	$112.50	5
8030	010145869	SEALING COMPOUND	$109.85	33
8030	006647077	FILLER,WOOD	$108.80	32
8030	002629171	FILLER,WOOD	$108.57	47

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8030	014189006	CORROSION PREVENTIV	$105.08	4
8030	000812325	SEALING COMPOUND	$101.20	34
8030	013965731	CORROSION PREVENTIV	$97.86	6
8030	004859200	SEALING COMPOUND	$93.15	3
8030	001429272	CORROSION RESISTANT	$93.10	32
8030	005512801	SEALING COMPOUND	$92.16	6
8030	009030931	CORROSION PREVENTIV	$91.29	27
8030	005985915	CORROSION PREVENTIV	$86.92	28
8030	011549248	SEALING COMPOUND	$86.92	4
8030	010145065	CORROSION PREVENTIV	$84.60	18
8030	006644019	SEALING COMPOUND	$82.80	7
8030	000625866	CORROSION PREVENTIV	$81.62	6
8030	001180012	SEALING COMPOUND	$81.28	8
8030	002629172	FILLER,WOOD	$79.80	15
8030	007535011	PUTTY	$79.68	16
8030	005976105	NEATS-FOOT OIL	$79.20	24
8030	000812286	SEALING COMPOUND	$73.86	40
8030	008237917	SEALING COMPOUND	$73.40	20
8030	001556444	ANTISEIZE COMPOUND	$69.36	8
8030	000044333	SEALING COMPOUND	$68.00	40
8030	011553238	SEALING COMPOUND	$67.90	2
8030	000087203	SEALING COMPOUND	$67.56	2
8030	007535004	SEALING COMPOUND	$67.20	16
8030	009923156	RESIN COATING,THERM	$66.12	3
8030	009656704	SEALING COMPOUND	$65.82	3
8030	007535008	SEALING COMPOUND	$65.40	20
8030	001490335	ANTISEIZE COMPOUND	$65.25	1
8030	013965735	CORROSION PREVENTIV	$65.24	4
8030	000572354	CORROSION RESISTANT	$64.11	5
8030	000812336	SEALING COMPOUND	$63.10	26
8030	011269460	SEALING COMPOUND	$62.60	10
8030	013204710	SEALING COMPOUND	$59.42	6
8030	000812328	SEALING COMPOUND	$59.40	36
8030	001806222	SEALING COMPOUND	$59.06	26
8030	002098005	SEALING COMPOUND	$56.98	22
8030	002441031	NEATS-FOOT OIL	$54.50	10
8030	000812326	SEALING COMPOUND	$53.42	5
8030	002206973	SEALING COMPOUND	$51.36	12
8030	001806201	SEALING COMPOUND	$49.47	3
8030	011068393	COATING,PROTECTIVE,	$49.38	6
8030	001180666	CORROSION PREVENTIV	$48.90	13
8030	002211835	CORROSION PREVENTIV	$48.71	1
8030	000861506	RESIN COATING,THERM	$48.19	13
8030	006644017	CORROSION PREVENTIV	$47.88	7
8030	011247622	SEALING COMPOUND	$47.85	3
8030	002312353	CORROSION PREVENTIV	$46.15	5
8030	009652397	SEALING COMPOUND	$42.70	10
8030	002812347	PRESERVATIVE COATIN	$42.40	4
8030	000716915	SEALING COMPOUND	$41.04	3
8030	001450300	PUTTY	$40.83	1
8030	001299937	CORROSION PREVENTIV	$40.74	1
8030	001116404	SEALING COMPOUND	$40.46	24
8030	002830512	FILLER,WOOD	$38.15	5
8030	013690049	SEALING COMPOUND	$36.15	1
8030	008480266	FILLER,DENT,METAL S	$34.66	2
8030	010411596	CORROSION PREVENTIV	$34.60	5
8030	007838898	SEALING COMPOUND	$32.72	2
8030	014405121	SEALING COMPOUND	$32.08	4
8030	008238039	CORROSION RESISTANT	$30.51	3
8030	011549255	SEALING COMPOUND	$30.02	2
8030	011522285	PRIMER,SEALING COMP	$29.80	4

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8030	009750713	SEALING COMPOUND	$29.34	1
8030	005982910	SEALING COMPOUND	$28.05	6
8030	010693046	SEALING COMPOUND	$25.50	8
8030	002911787	SEALING COMPOUND	$25.47	9
8030	001520015	RESIN,EPOXY	$23.13	3
8030	013673975	REMOVER,GASKET	$22.34	2
8030	000812341	SEALING COMPOUND BAS	$22.14	3
8030	007534596	SEALING COMPOUND	$22.08	4
8030	011522286	ANTI-ABRASIVE COMPO	$21.80	1
8030	008339116	SEALING COMPOUND	$21.50	10
8030	009522205	SEALING COMPOUND	$21.48	2
8030	010556126	SEALING COMPOUND	$20.10	2
8030	006167694	ANTISEIZE COMPOUND	$19.66	2
8030	009803975	PRIMER,SEALING COMP	$19.32	2
8030	010888140	SEALING COMPOUND	$15.15	1
8030	010454780	CORROSION PREVENTIV	$14.80	1
8030	009355841	SEALING COMPOUND	$14.78	2
8030	000812331	SEALING COMPOUND	$14.06	2
8030	005468621	COATING COMPOUND	$12.00	2
8030	001520064	RESIN,EPOXY	$11.61	1
8030	005377925	SEALING COMPOUND	$10.95	1
8030	009537757	CORROSION RESISTANT	$10.00	2
8030	006802041	SEALING COMPOUND	$8.32	1
8030	000812330	SEALING COMPOUND	$6.60	4
8030	010637510	SEALING COMPOUND	$6.26	2
8030	010083058	CORROSION PREVENTIVE	$5.49	1
8030	002010996	SEALING COMPOUND	$3.71	1
8030	000812338	SEALING COMPOUND	$3.67	1
8030	001606897	FILLER,WOOD	$0.02	2
8040	011633481	ADHESIVE	$22,570.56	336
8040	004637042	ADHESIVE	$16,972.05	233
8040	001817761	ADHESIVE	$16,641.31	1585
8040	001450450	ADHESIVE	$15,043.20	1017
8040	000168662	ADHESIVE	$14,758.96	223
8040	008658991	ADHESIVE	$11,060.67	2131
8040	001429193	ADHESIVE	$10,177.89	607
8040	011086660	REPAIR KIT	$9,828.94	2896
8040	010400947	PRIMER,ADHESIVE	$8,978.20	1095
8040	009983339	ADHESIVE	$8,004.57	126
8040	010398132	ADHESIVE	$7,424.75	2345
8040	000922816	ADHESIVE	$7,390.41	385
8040	008339563	ADHESIVE	$7,305.59	1654
8040	011074000	ADHESIVE	$7,250.00	134
8040	012086003	ADHESIVE	$6,561.97	89
8040	002254548	ADHESIVE SEALANT	$5,835.81	1132
8040	001450020	ADHESIVE	$5,619.76	304
8040	009957080	ADHESIVE	$4,555.24	476
8040	011891284	ADHESIVE	$3,656.36	48
8040	001178510	ADHESIVE	$3,587.56	194
8040	013556366	ADHESIVE	$3,530.07	24
8040	003907959	ADHESIVE	$3,439.93	157
8040	001236954	ADHESIVE	$3,342.78	43
8040	009386860	ADHESIVE	$2,968.23	635
8040	009023871	ADHESIVE	$2,766.68	482
8040	001450019	ADHESIVE	$2,615.03	121
8040	010108758	ADHESIVE	$2,595.72	492
8040	002643848	ADHESIVE	$2,395.66	1150
8040	001450432	ADHESIVE	$2,320.50	30
8040	011847171	ADHESIVE	$2,155.36	30
8040	010164726	ADHESIVE	$2,084.04	40
8040	013569085	PRIMER, ADHESIVE	$1,900.00	20

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8040	001489849	ADHESIVE	$1,727.19	9
8040	008510211	ADHESIVE	$1,723.66	391
8040	008430802	ADHESIVE	$1,702.04	471
8040	010435423	ADHESIVE	$1,673.21	6
8040	011680077	ADHESIVE	$1,653.76	73
8040	001449774	ADHESIVE	$1,552.00	32
8040	002708137	ADHESIVE	$1,534.60	88
8040	001658614	ADHESIVE	$1,495.16	350
8040	002811972	ADHESIVE	$1,412.16	48
8040	009591854	ADHESIVE	$1,350.75	15
8040	013608079	ADHESIVE	$1,336.54	170
8040	009447292	ADHESIVE KIT,METAL	$1,315.88	518
8040	011292559	ADHESIVE	$1,313.50	11
8040	011451768	ADHESIVE	$1,311.70	65
8040	013780235	GASKET SHELLAC COMP	$1,295.67	67
8040	012047187	PRIMER,ADHESIVE	$1,231.70	8
8040	009381535	ADHESIVE	$1,199.49	89
8040	001817201	ADHESIVE	$1,195.18	33
8040	001450530	ADHESIVE	$1,155.12	12
8040	010153805	ADHESIVE	$1,096.12	24
8040	012056819	PRIMER,ADHESIVE	$1,053.71	13
8040	010152202	ADHESIVE	$1,014.35	5
8040	010462944	ADHESIVE	$997.50	2
8040	002629028	ADHESIVE	$949.99	135
8040	011977406	ADHESIVE	$877.68	12
8040	009957017	ADHESIVE	$769.42	2
8040	007019546	ADHESIVE	$768.25	175
8040	002477642	ADHESIVE	$751.32	59
8040	005223429	ADHESIVE	$703.45	40
8040	012285061	ADHESIVE	$674.96	4
8040	008326173	ADHESIVE	$672.88	136
8040	002918625	ADHESIVE	$647.93	514
8040	011540038	ADHESIVE	$643.30	35
8040	002708150	ADHESIVE	$622.37	211
8040	001182695	ADHESIVE	$608.97	110
8040	001490136	ADHESIVE	$606.77	1
8040	010482193	ADHESIVE	$593.16	118
8040	007542761	ADHESIVE,DRY MOUNTI	$590.46	13
8040	011479957	ADHESIVE	$587.74	10
8040	002738717	ADHESIVE	$567.99	226
8040	007542483	ADHESIVE	$565.80	584
8040	014139291	ADHESIVE	$559.26	39
8040	002904301	ADHESIVE	$555.93	71
8040	000838403	PRIMER,ADHESIVE	$551.10	14
8040	007386429	CEMENT,EPOXY,ALUMIN	$541.78	134
8040	011936717	ADHESIVE	$531.68	8
8040	009419984	ADHESIVE	$492.01	60
8040	006644318	ADHESIVE	$489.32	100
8040	011022098	ADHESIVE	$482.79	29
8040	008779872	ADHESIVE	$481.55	140
8040	003443580	ADHESIVE	$479.25	75
8040	012843984	ADHESIVE	$473.88	33
8040	011230082	ADHESIVE	$462.56	19
8040	005432858	ADHESIVE	$460.24	44
8040	005261910	ADHESIVE	$449.50	10
8040	010421422	PRIMER,ADHESIVE	$429.60	20
8040	010899073	ADHESIVE	$427.95	35
8040	002738713	ADHESIVE	$422.32	29
8040	009006296	ADHESIVE	$414.07	41
8040	010246988	ADHESIVE	$412.70	65
8040	001817548	ADHESIVE	$404.90	19

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8040	007542685	ADHESIVE	$395.00	30
8040	010909320	ADHESIVE	$385.80	12
8040	001917454	ADHESIVE	$385.68	24
8040	001092481	ADHESIVE	$384.19	90
8040	000624173	ADHESIVE	$374.36	14
8040	001520017	ADHESIVE	$360.68	16
8040	000511318	ADHESIVE	$356.52	36
8040	001520019	ADHESIVE	$335.28	24
8040	011327679	ADHESIVE	$334.32	12
8040	008226430	ADHESIVE	$320.26	44
8040	013317128	ADHESIVE	$310.96	7
8040	010091562	ADHESIVE	$306.88	32
8040	006644946	ADHESIVE	$295.68	57
8040	000618303	ADHESIVE	$269.13	45
8040	012528567	ADHESIVE	$268.10	80
8040	000187581	ADHESIVE	$243.00	3
8040	013754805	ADHESIVE	$238.08	6
8040	008454304	PRIMER,ADHESIVE	$227.26	11
8040	007644424	ADHESIVE	$224.25	43
8040	009321945	ADHESIVE	$223.20	5
8040	013754803	ADHESIVE	$222.18	6
8040	011266270	ADHESIVE	$221.94	27
8040	010977841	PRIMER,ADHESIVE	$210.15	1
8040	004555359	ADHESIVE	$205.11	43
8040	011525334	ADHESIVE	$200.04	3
8040	013801709	PAINT TRAFFIC	$195.70	10
8040	013317471	ADHESIVE	$186.54	38
8040	013608080	ADHESIVE	$178.22	55
8040	007283088	SEALING COMPOUND	$176.56	20
8040	012982978	ADHESIVE	$170.28	18
8040	012503969	ADHESIVE	$169.40	22
8040	008437873	ADHESIVE	$165.06	6
8040	011672613	ADHESIVE	$163.00	10
8040	012972378	ADHESIVE	$157.32	2
8040	014505419	ADHESIVE	$156.00	3
8040	009359171	ADHESIVE	$152.20	20
8040	011703599	ADHESIVE	$151.50	5
8040	012661712	ADHESIVE	$147.00	20
8040	002629011	ADHESIVE	$145.02	34
8040	013760468	ADHESIVE	$143.60	40
8040	013613132	PRIMER,ADHESIVE	$137.05	16
8040	001805941	ADHESIVE	$136.86	2
8040	008391442	HARDENER,ADHESIVE	$123.74	23
8040	002667429	ADHESIVE	$120.38	31
8040	008313403	ADHESIVE	$112.14	3
8040	009475483	ADHESIVE	$106.96	4
8040	000976524	ADHESIVE	$106.18	2
8040	013477601	ADHESIVE	$104.07	3
8040	002758100	ADHESIVE	$101.85	7
8040	011922491	PRIMER, ADHESIVE	$99.76	4
8040	000656578	PRIMER,ADHESIVE	$99.32	1
8040	014414904	ADHESIVE	$98.00	2
8040	012301502	ADHESIVE	$95.06	14
8040	013317475	ADHESIVE	$94.62	38
8040	014161685	ADHESIVE	$93.49	1
8040	013317469	ADHESIVE	$93.06	33
8040	002660856	ADHESIVE	$92.70	10
8040	007542485	ADHESIVE	$92.32	32
8040	011659394	ADHESIVE	$91.30	22
8040	006911322	ADHESIVE	$89.82	2
8040	002009190	ADHESIVE	$89.15	5

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8040	011812355	ACCELERATOR	$85.40	4
8040	013769426	ADHESIVE	$84.76	8
8040	010682423	ADHESIVE	$84.39	9
8040	011528105	ADHESIVE	$82.60	1
8040	011609551	ADHESIVE	$79.61	3
8040	007799595	ADHESIVE	$71.48	28
8040	002660815	ADHESIVE	$71.46	1
8040	013613097	ADHESIVE	$71.03	9
8040	012031443	ADHESIVE	$65.40	12
8040	005304820	ADHESIVE	$64.17	3
8040	006640439	ADHESIVE	$63.40	20
8040	002660850	ADHESIVE	$60.01	17
8040	013317132	ADHESIVE	$58.32	24
8040	013317470	ADHESIVE	$57.67	17
8040	012945223	ADHESIVE	$55.50	10
8040	009363275	ADHESIVE	$54.96	3
8040	009935813	ADHESIVE	$53.97	3
8040	000582399	ADHESIVE	$51.48	12
8040	000844338	HARDENER,ADHESIVE	$47.55	1
8040	002629025	ADHESIVE	$40.20	9
8040	010387728	ADHESIVE	$40.20	5
8040	008263535	ADHESIVE	$39.72	2
8040	001487182	ADHESIVE	$37.81	8
8040	012207181	ADHESIVE	$36.28	1
8040	008105414	ADHESIVE	$34.88	4
8040	001520063	ADHESIVE	$34.44	12
8040	007769605	ADHESIVE	$33.95	5
8040	008463351	ADHESIVE	$31.81	1
8040	010340401	ADHESIVE	$30.50	15
8040	010337507	ADHESIVE	$29.76	4
8040	004334065	ADHESIVE	$28.04	1
8040	004405603	ADHESIVE	$27.84	2
8040	013930267	ADHESIVE	$27.69	1
8040	007148223	ADHESIVE	$25.68	6
8040	012821332	ADHESIVE	$23.79	5
8040	005731502	ADHESIVE	$23.56	4
8040	011261422	ADHESIVE	$23.02	2
8040	006633745	GASKET CEMENT	$21.88	2
8040	006447073	CONNECTOR, RECEPTACLE	$21.84	2
8040	008495195	ADHESIVE EPOXY	$21.75	1
8040	007542484	ADHESIVE	$18.60	12
8040	000431717	ADHESIVE	$17.67	3
8040	008807332	ADHESIVE	$16.66	1
8040	001178738	ADHESIVE	$15.48	1
8040	001818380	ADHESIVE	$15.11	1
8040	002660824	ADHESIVE	$15.08	4
8040	007856706	ADHESIVE	$14.38	7
8040	013318047	ADHESIVE	$14.10	5
8040	013885620	ADHESIVE	$12.90	1
8040	002629062	ADHESIVE	$9.68	2
8040	002819244	ADHESIVE	$9.21	7
8040	011528104	ADHESIVE	$9.15	1
8040	005152246	ADHESIVE	$8.16	2
8040	008394919	ADHESIVE	$8.00	1
8040	002667427	ADHESIVE	$7.84	2
8040	012812729	ADHESIVE	$7.64	2
8040	014069114	ADHESIVE	$5.89	1
8040	002981946	ADHESIVE	$5.31	2
8040	007534800	ADHESIVE	$4.66	2
8040	006801080	ADHESIVE	$2.69	1
8040	000631387	ADHESIVE	$1.68	1

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
8040	002124603	COMPOUND	$0.94	2
9110	002639865	FUEL COMPRESSED TRIOX	$1,578.36	1879
9110	014141817	CHARCOAL, WOOD	$246.28	17
9110	008893553	FUEL,COMPRESSED TRI	$225.00	500
9110	002549001	CHARCOAL WOOD STICK 1	$1.60	1
9110	002549002	CHARCOAL,WOOD	$0.00	100
9130	010315816	TURBINE FUEL,AVIATI	$9,500.00	12500
9135	008821793	PROPELLANT,PRESSURI	$2,275.00	13
9140	002865287	DIESEL FUEL OIL DF1 5	$996.31	40
9140	002865297	DIESEL FUEL OIL DF2 5	$155.90	2
9150	011524118	LUBRICATING OIL,ENG	$358,244.20	20863
9150	009857099	LUB OIL ATE MIL-L-236	$257,522.67	68157
9150	001866668	LUBOIL MIL-L-2104 OE/	$228,759.33	13443
9150	001116254	HYDRAULIC FLUID,FIR	$141,950.85	11939
9150	011794725	COIL ELECTRICAL	$140,203.20	120
9150	011977692	GREASE,AUTOMOTIVE A	$136,283.72	2300
9150	010355393	LUBRICATING OIL,GEA	$119,748.84	6505
9150	011029455	BRAKE FLUID,AUTOMOT	$99,877.28	3636
9150	011977693	GREASE,AUTOMOTIVE A	$86,708.15	39391
9150	006574959	HYDRAULIC FLUID,AUT	$62,970.58	3145
9150	011524119	LUBRICATING OIL,ENG	$57,780.35	350
9150	011784725	LUBRICATING OIL,ENG	$57,206.35	59843
9150	001116256	HYDRAULIC FLUID,FIR	$55,698.44	18188
9150	014159112	LUBRICATING OIL	$54,100.00	200
9150	001889858	LUBOIL MIL-L-2104 OE/	$50,652.87	3138
9150	002617895	FOG OIL TYPE SGF-2 55	$50,261.49	369
9150	010536688	CLEANER,LUBRICANT A	$49,278.69	2175
9150	012932772	LUBRICATING OIL,ENG	$40,227.18	130
9150	010546453	CLEANER,LUBRICANT A	$36,511.85	6802
9150	011524117	LUBRICATING OIL,ENG	$31,808.28	14295
9150	012092684	LUBRICATING OIL,HEL	$31,029.14	5448
9150	001110210	LUB OIL PE 30 MIL-L-2	$30,701.16	126
9150	001497431	HYDRAULIC FLUID,FIR	$28,687.03	10257
9150	013519019	LUBRICATING OIL,ENG	$27,932.33	2435
9150	001912772	LUBOIL MIL-L-2104 OE/	$27,390.30	175
9150	011977689	GREASE,AUTOMOTIVE A	$26,919.44	1770
9150	001896727	LUBOIL MIL-L-2104 OE/	$24,210.13	7357
9150	006982382	HYDRAULIC FLUID AUTO-	$22,547.43	14435
9150	011021473	CLEANER,LUBRICANT A	$21,921.85	23837
9150	013534799	HYDRAULIC FLUID,AUT	$19,427.18	17128
9150	013522962	LUBRICATING OIL,ENG	$18,784.59	1045
9150	009359809	HYDRAULIC FLUID PB PR	$17,793.95	515
9150	010796124	CLEANER,LUBRICANT A	$17,228.38	9450
9150	011773988	LUBRICATING OIL,ENG	$16,133.56	11625
9150	011977691	GREASE,AUTOMOTIVE A	$15,201.36	72
9150	013519018	LUBRICATING OIL,ENG	$14,408.52	84
9150	001896729	LUBOIL MIL-L-2104 OE/	$13,834.16	89
9150	001450268	GREASE AIRCRAFT GP WD	$11,678.81	871
9150	001113199	LUB OIL PE 10 MIL-L-2	$11,536.20	377
9150	002526383	HYDRAULIC FLUID ACFT/	$11,368.86	5941
9150	013226846	OIL,HONING	$10,341.76	16
9150	009490323	LUB OIL SEM RIAPD-68	$10,281.30	1458
9150	002234134	HYDRAULIC FLUID ACFT/	$10,189.96	1272
9150	001178791	LUBRICATING OIL,ENG	$9,431.43	7083
9150	004022372	LUB OIL ICE SUB ZERO	$9,222.88	78
9150	007542595	GREASE MOLYBDENUM DIS	$7,897.58	1211
9150	010569047	DAMPING FLUID	$7,759.62	33
9150	012602534	LUBRICANT,SOLID FIL	$7,616.28	1734
9150	010355394	LUBRICATING OIL,GEA	$7,464.92	40
9150	007822627	LUBOIL ATE MIL-L-7808	$7,052.31	1851
9150	009359808	HYDRAULIC FLUID PB PR	$5,904.74	617

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9150	001110208	LUB OIL PE 10 MIL-L-2	$5,897.46	19
9150	001806290	HYDRAULIC FLUID,NON	$5,869.03	11
9150	002316676	LUB OIL JET ENG MS-10	$5,780.26	31
9150	011580462	HYDRAULIC FLUID,FIR	$5,584.55	11
9150	001497432	HYDRAULIC FLUID,FIR	$5,549.28	465
9150	009355851	GREASE AIRCRAFT LIQ L	$5,391.40	70
9150	006815999	LUBOIL ACFT SYN MIL-L	$5,322.45	7
9150	002617899	PENETRATING OIL VV-P-	$5,321.75	3537
9150	010355395	LUBRICATING OIL,GEA	$4,893.48	197
9150	001806266	LUBE OIL A&E 8 OZ CN	$4,876.88	2296
9150	007534686	LUB OIL WEA LSA MIL-L	$4,854.75	129
9150	014159114	LUBRICATING OIL, GEN	$4,499.00	50
9150	011977690	GREASE,AUTOMOTIVE A	$4,126.78	630
9150	011784726	LUBRICATING OIL,ENG	$4,061.07	3024
9150	012121409	GREASE,TRANSMISSION	$3,959.76	42
9150	013279631	CLEANER,LUBRICANT A	$3,735.00	180
9150	010530011	LUBRICATING OIL ENGIN	$3,666.08	8
9150	002929689	LUB OIL WEP MIL-L-141	$3,434.46	485
9150	011784118	VOLTMETER	$3,141.60	4
9150	001110209	LUB OIL PE 30 MIL-L-2	$3,040.83	117
9150	010567346	DAMPING FLUID	$2,832.94	22
9150	005068497	LUBRICANT	$2,810.93	313
9150	008893522	LUB OIL WEA LSA MIL-L	$2,630.16	1170
9150	013519016	LUBRICATING OIL,ENG	$2,532.28	236
9150	001866681	LUBOIL MIL-L-2104 OE/	$2,512.78	1978
9150	001116255	HYDRAULIC FLUID,FIR	$2,454.82	39
9150	002234004	GREASE,MOLYBDENUM D	$2,323.77	127
9150	009448953	GREASE AIRCRAFT GP WD	$2,189.39	497
9150	009354018	GREASE MOLYBDENUM DIS	$2,081.20	430
9150	006874241	LUB OIL WEA LSA MIL-L	$2,051.13	195
9150	001416770	GREASE AIRCRAFT BALL/	$1,934.40	32
9150	001817724	GREASE AIRCRAFT GP WD	$1,909.44	306
9150	014390859	LUBRICATING OIL,WEAPO	$1,889.85	215
9150	004917197	LUB OIL SUB ZERO 55 G	$1,845.80	2
9150	014386082	LUBRICATING OIL,ENG	$1,830.00	120
9150	000019395	LUBRICATING OIL,GEA	$1,817.04	66
9150	004580075	LUBRICATING OIL GP 16	$1,787.72	941
9150	001491593	GREASE,BALL AND ROL	$1,714.53	201
9150	009997548	LUBRICANT INTERLOCKIN	$1,675.99	169
9150	010355391	LUBRICATING OIL,GEA	$1,625.08	38
9150	014211424	LUBRICATING OIL,ENG	$1,558.79	86
9150	004089635	GREASE,AIRCRAFT	$1,526.22	61
9150	010355396	LUBRICATING OIL,GEA	$1,400.28	6
9150	011977688	GREASE,AUTOMOTIVE A	$1,339.80	308
9150	013300692	LUBRICATING OIL,HYD	$1,337.76	72
9150	011233152	BRAKE FLUID,AUTOMOT	$1,336.69	9
9150	008237860	LUBRICATING COMPOUND	$1,311.89	321
9150	014211432	LUBRICATING OIL,ENG	$1,309.75	7
9150	006631770	GREASE,GENERAL PURP	$1,308.75	55
9150	010355392	LUBRICATING OIL,GEA	$1,300.68	702
9150	010074384	GREASE,AIRCRAFT AND	$1,272.42	35
9150	001595012	ASSEMBLY FLUID	$1,229.20	26
9150	011198149	HYDRAULIC FLUID,FIR	$1,188.72	2
9150	013874469	LUBRICATING OIL	$1,116.81	23
9150	005306814	GREASE WIRE-ROPE EXPO	$1,106.46	27
9150	002732388	LUB OIL JET ENG MS 10	$1,085.01	613
9150	001866705	LUBOIL MIL-L-46152 GR	$1,070.93	753
9150	009359807	HYDRAULIC FLUID PB PR	$1,026.64	367
9150	001818097	LUB OIL MIL-L-9000 MS	$1,015.85	6
9150	011097793	LUBRICATING OIL,SEM	$996.19	58
9150	014385905	LUBRICATING OIL,ENG	$991.68	96

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
9150	014228899	LUBRICATING OIL,ENG	$990.45	93
9150	014439003	LUBRICANT,FLUOROCAR	$972.80	80
9150	009857245	GREASE,AIRCRAFT AND	$958.89	180
9150	009486912	LUBRICANT SOLID FILM	$957.78	51
9150	009356597	LUB OIL WEA LSA MIL-L	$903.50	570
9150	011149968	HYDRAULIC FLUID,AUT	$818.76	4
9150	012173103	LUBRICATING,OIL,MOLYB	$809.88	102
9150	011313325	HYDRAULIC FLUID,FIR	$780.56	11
9150	009857246	GREASE AIRCRAFT/INSTR	$731.88	107
9150	002732389	LUB OIL GP VV-L-800 M	$609.37	512
9150	008644973	DAMPING FLUID SILICON	$603.60	42
9150	014386066	LUBRICATING OIL,ENG	$599.20	4
9150	014229250	LUBRICATING OIL,ENG	$581.50	50
9150	010929755	HYDRAULIC FLUID,AUT	$566.58	266
9150	014140615	LUBRICATIN OIL,GEAR	$565.52	4
9150	010527562	LUBRICATING OIL,AIR	$558.44	23
9150	014228746	LUBRICATING OIL,ENG	$508.71	3
9150	014337986	LUBRICATING OIL,ENG	$505.54	23
9150	002500926	PETROLATUM TECHNICAL	$493.30	110
9150	010151542	GREASE,MOLYBDENUM D	$484.88	277
9150	003499290	LUBRICANT SOLID FILM	$483.69	69
9150	009487025	LUBRICANT SOLID FILM	$469.97	9
9150	009618995	GREASE,AIRCRAFT AND	$454.99	13
9150	013333975	OIL,AIR FILTER	$435.78	11
9150	001900918	GREASE GRAPHITE GRADE	$421.50	115
9150	014136892	LUBRICATING OIL,ENG	$414.25	25
9150	002698246	DAMPING FLUID SILICON	$400.60	81
9150	000714712	LUBRICATING OIL,REF	$396.36	27
9150	014169506	LUBRICANT,SOLID FIL	$393.36	2
9150	014211427	LUBRICATING OIL,ENG	$389.10	344
9150	014228750	LUBRICATING OIL,ENG	$386.17	23
9150	005297518	PENETRATING OIL	$381.92	248
9150	007540064	LUBRICANT SOLID FILM	$367.14	174
9150	011864008	GREASE,BALL AND ROL	$359.76	12
9150	013203706	LUBRICATING OIL,ENG	$358.71	33
9150	001759154	CUTTING FLUID	$352.92	34
9150	009354017	GREASE AIRCRAFT/INSTR	$341.91	71
9150	012623358	GREASE,AIRCRAFT	$324.21	101
9150	013804235	LUBRICANT,SOLID FIL	$317.25	15
9150	002575358	LUBRICATING GREASE HT	$312.17	19
9150	002319054	CUTTING FLUID	$290.69	5
9150	014136990	LUBRICATING OIL,ENG	$289.92	2
9150	011313323	HYDRAULIC FLUID,FIR	$285.74	91
9150	009857255	LUBRICANT,SOLID FIL	$265.25	5
9150	002316689	LUBRICATING OIL,GEN	$257.01	61
9150	001896730	LUBOIL MIL-L-2104 OE/	$250.00	200
9150	014386064	LUBRICATING OIL,ENG	$242.40	15
9150	008237905	LUB OIL REF VV-L-825	$241.49	19
9150	012928848	LUBRIC.OIL,GEAR	$240.00	8
9150	002345197	LUB OIL VV-L-751 MS C	$239.85	39
9150	001450161	GREASE AIRCRAFT & INS	$238.80	24
9150	012101938	LUBRICATING OIL,HEL	$220.00	10
9150	011313324	HYDRAULIC FLUID,FIR	$219.75	15
9150	002312361	LUB OIL MIL-L-3150 M	$207.06	58
9150	001199291	GREASE,AIRCRAFT	$200.75	37
9150	002402260	LUB OIL MIL-L-1071 MS	$198.04	4
9150	012278210	LUBRICATING OIL,ENG	$190.25	17
9150	009857234	HYDRAULIC FLUID,PET	$185.65	11
9150	001889865	LUBOIL MIL-L-2104 OE/	$180.84	12
9150	006640050	GREASE,ORDNANCE,EXT	$179.90	10
9150	002316699	OIL LARD 1 PT CN	$171.18	38

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
9150	002738663	LUBRICATING OIL VAC P	$161.00	25
9150	010355390	LUBRICATING OIL,GEA	$160.01	35
9150	002698255	GREASE PNEUMATIC SYST	$159.92	10
9150	001900919	GREASE GRAPHITE GRADE	$145.31	11
9150	014386076	LUBRICATING OIL,ENG	$143.84	124
9150	002618317	FLUID POWER TRANSMISS	$142.86	3
9150	014136897	LUBRICATING OIL,ENG	$141.48	12
9150	009036431	LUBRICANT,DRY FILM	$139.14	18
9150	001414481	GREASE,GENERAL PURPOS	$137.90	35
9150	010454849	CUTTING FLUID	$137.70	2
9150	011172928	GREASE,BALL AND ROL	$123.03	9
9150	009531694	GREASE,GENERAL PURP	$117.00	30
9150	001594472	HYDRAULIC FLUID,PET	$113.02	18
9150	008368641	LUBRICATING OIL,GEN	$112.77	17
9150	014390764	LUBRICATING OIL,AIR	$107.80	49
9150	002904091	HYDRAULIC FLUID,PET	$103.70	10
9150	010401423	GREASE,BALL AND ROL	$102.12	4
9150	011983829	GEAR LUBRICANT ADDI	$99.71	19
9150	002659405	CUTTING OIL SOLUBLE 1	$98.72	8
9150	013456449	GREASE,AIRCRAFT	$98.70	5
9150	009857248	GREASE,AIRCRAFT AND	$98.42	1
9150	008431636	FLUID AUTOMOBILE TRAN	$97.20	10
9150	006631360	CUTTING FLUID,LAPPI	$95.60	20
9150	002618146	LUB OIL GP VV-L-820 M	$94.24	124
9150	004052987	LUBRICATING OIL,ENG	$91.00	50
9150	005982911	LUBOIL REF VV-L-825 M	$82.40	20
9150	010661823	GREASE,SILICONE INSUL	$75.79	1
9150	013804470	LUBRICANT,SOLID FIL	$74.60	5
9150	002659417	LUB OIL GEAR MIL-L-60	$74.12	4
9150	010872234	HYDRAULIC FLUID,POW	$70.20	20
9150	001866699	LUBOIL MIL-L-46152 GR	$62.98	47
9150	011328871	GREASE,GENERAL PURP	$62.95	5
9150	002526371	CUTTING OIL SULF-FATT	$61.50	6
9150	014386071	LUBRICATING OIL,ENG	$56.40	24
9150	002319045	LUB OIL GP VV-L-820 M	$50.32	4
9150	002659406	OIL LARD 1 GL CN	$49.32	2
9150	002718427	LUBRICATING OIL,GEN	$49.20	24
9150	010079134	LUBRICATING OIL,AIR	$47.10	5
9150	009652408	GREASE GROUND GLASS J	$42.96	3
9150	002738807	LUBRICATING OIL,AIR	$41.58	6
9150	005437220	LUB OIL MOLY/SIL MIL-	$41.42	2
9150	002700047	CASTOR OIL TECHNICAL	$41.10	2
9150	009857247	GREASE,AIRCRAFT AND	$39.06	2
9150	002234129	LUB OIL ACFT MIL-L-60	$37.05	5
9150	002234130	LUB OIL GEAR MIL-L-60	$36.66	2
9150	002319062	LUBRICATING OIL,GEN	$33.20	1
9150	013215856	LUBRICATING OIL GENER	$33.10	10
9150	010526762	BRAKE FLUID,AUTOMOTIV	$32.56	4
9150	013780559	GREASE,AIRCRAFT	$30.02	2
9150	002526380	CUTTING FLUID	$29.11	1
9150	002732397	LUB OIL GP MS OGP MIL	$27.58	2
9150	001110201	LUBOIL PE 30 726-6-21	$26.64	36
9150	010955512	GREASE,BALL AND ROL	$24.75	5
9150	009261969	GREASE, AIRCRAFT	$22.92	12
9150	010221692	CUTTING COMPOUND,PA	$21.78	3
9150	002575370	GREASE GRAPHITE 1 LB	$21.48	6
9150	009857244	GREASE,AIRCRAFT AND	$20.56	4
9150	002319071	BRAKE FLUID,AUTOMOTIV	$19.84	2
9150	003921670	GREASE	$17.00	10
9150	010880498	GREASE,AIRCRAFT AND	$16.10	1
9150	001806382	GREASE,GENERAL PURP	$12.85	1

FSC	NIIN	Nomenclature	Total extended Price	Total Quantity Ordered
9150	001837807	LUBRICATING OIL,ENG	$10.95	5
9150	014341510	LUBRICATING OIL,PAPER	$8.54	1
9150	005421430	LUBRICATING OIL,GEN	$7.62	6
9150	009297946	GREASE,GENERAL PURP	$5.25	3
9150	005437219	DAMPING FLUID SILICON	$4.84	1
9150	001866689	LUB OIL MIL-L-46152 G	$0.00	13
9150	013601903	LUBRICANT,SOLID FIL	$0.00	49
9160	014421277	WAX MICROCRYSTALLINE	$3,376.80	30
9160	014421276	WAX, MICROCRYSTALLINE	$2,796.75	25
9160	014421278	WAX MICROCRYSTALLINE	$2,251.20	20
9160	002531171	BEESWAX TECHNICAL 1 L	$16.10	5
9160	002531173	BEESWAX TECHNICAL 2 O	$15.60	13

Source: Mr. Bob Harrington, 200th TSCMMC, IMD, October 1999.

Appendix G
Listing of Unique HM Items Stocked by SSSCs

NSN	Nomenclature
6135008264798	BATTERY AAA
6135008357211	BATTERY, D CELL
6135009002139	BATTERY, DRY 9V ALKALINE, MUST USE ADVICE CODE 2B
6135009857845	BATTERY, DRY AA ALKALINE
6135009857846	BATTERY, DRY C ALKALINE
613500AP04088	LITH.BATT.3,6 V
613500AP04089	BATTERY 9V
613500AP04091	BATTERY MONO D
613500AP04178	BATTERY AA
613500AP04192	BATTERY SIZE C
613500AP04193	BATTERY AAA
675000AP04097	ASA COLOR 400
675000AP04098	ASA COLOR 200
675000AP04099	ASA COLOR 100
675000AP04100	ASA 100 S/W
675000AP04102	POLAROID 600
675000AP04103	ASA 400 S/W
675000AP04104	POLAROID IMAGE
6750011473592	FILM, POLAROID 600
6810005987316	SODIUM HYPOCHLORIDE SOLUTION BLEACH
6830 PROPAN	PROPAN 11 KG
683000V813112A1	ACETYLENE
683000V813113A1	ARGON
683000V813121A1	HYDROGEN
683000V813123N1	NITROGEN LOW
683000V813123N2	NITROGEN, HIGH
683000V81312801	OXYGEN
68400000B0518	GREASE CUTTER
6840002012505	DISINFECTANT, DETERGENT, GENERAL PURPOSE
6840005843129	PINE OIL 1 GL
6840006646610	DEODORANT CAKE W/WIRE
6840006877904	PINE OIL DISIN
6840007216055	DEODORANT, GENERAL-PURPOSE
684000V042062	SMELLEX CLEANING COMPOUND GL
684000V042083	AIR FRESHENER 1/2 LTR
684000V042114	AIR FRESHENER FLORIN
684000V042122	FLAMIL 50 SUPER OIL AND GL
684000V042127	MIKRO-QUAT 5 LTR
6840012843982	INSECT REP 6OZ
6840013424143	CLEANER-DISINFECTANT, PINE OIL
684001AM80076	AIR FRESHENER
6850009262275	CLEANING COMPOU
6850013436998	CARTRIDGE III & IV SI
6850013599214	SCALE-AWAY
6850013684797	OFFICE DUSTER, 10 OZ
7930 ECO 6215-0	STAINLESS, STEE
7930 ECO 6217-0	SPRAY CLEANER
7930 ECO 6869	HEAVY DUTY CLEA
7930 ECO 6875	GREASE CUTTER
7930 ECO 6877	LIME, AWAY
7930 ECO 7197	SOLID POW. II
7930 ECO 851070	TOILET CLEANER
7930 ECO 851080	ALL PURPOSE CLE
7930 ECO 851090	GLASS CLEANER

NSN	Nomenclature
7930 ECO 873997	SOLID POWER PLU
7930 ECO 887010	CLEAR DRY HD
7930 FLO462-001	AIR FRESH LEMON
7930 FLO462-002	AIR FRESH EXTIC
7930 FLO462-003	AIR FRESH SEA F
7930 FLORE 014	FLORINE, S-PLUS
7930 FLORE 015	SMELLEX
7930 FLORE 022	HEAVY DUTY RUST
7930 FLORE 051	FLAMIL 50 SUPER
7930 FLORE 065	SPECIAL SPRAY B
7930 FLORE 090	FLAMIL EW
7930 FLORE 112	FLORE SEPT
7930 FLORE 192	ACRYL SUPER
7930 FLORE 267	SUPER GREA 1300
7930 FLORE 462	AIR FRESH.SOLAR
7930-01-418-1234	GREASECUT PLUS
793000	STARDUST ABSORBENT
79300000A2086	BOOL CLEANER
7930000456923	REMOVER,FLOOR P
7930001325265	SWEEPING COMP
7930001415888	WAX, FLOOR, WATER EMULSION-TYPE
7930001775243	DETERGENT ALL PURPOSE
7930001849423	GLASS, CLEANER
7930002052870	WAX FLOOR
7930002691272	ABSORBENT MATERIAL, OIL AND WATER
7930002814731	DISH WASHING, COMPOUND, HAND
7930003577386	DETERGENT
7930004592247	CLEANING COMPOUND, OVEN
7930006646910	GLASS CLEANER 8
7930007218592	SCOURING PWD 21
7930007649017	JET DRY RINSE
7930008804454	DISH WASHING, COMPOUND, HAND
7930008999534	DISHW COM 5 GAL
7930009265280	DETERGENT, GENERAL PURPOSE
793000AP04200	SUPER ABSORBENT
793000AP04201	BROOM HEAD 14"
793000V042063	FLOOR ACRYL SUPER
793000V042064	FLORIN S PLUS,LIME AWAY
793000V042066	FLAMIL KONVERT OVEN CLEANER
793000V042067	LISAN DISHWASHING SOAP
793000V042069	SOLID POWER SYSTEM
793000V042070	RINSE HEAVY DUTY
793000V042071	SOLITAIRE
793000V042072	REGAIN NON AMMONIATED
793000V042073	MIKROKLENE
793000V042074	LIME A WAY ECOLAP
793000V042081	ALL PORPOUSE CLEANER 1/2 LTR
793000V042084	CREAM CLEANSER 1/2 LTR
793000V042088	STAINLESS STEEL POLISH & CN
793000V042119	DESCALER
793000V042125	LL PORPOUSE CLEANER 5 LTR
793000V042126	GREASE CUTTER
793000V042142	LIQUID PAN DANDY,HAND DISH- BT
793000V042179	FLORE SEPT DESINFECTANT
793000V042180	PERFECT HAND CLEANING
7930012941115	SCOURING POWDER
7930013425315	SIMPLE GREEN
7930013599229	CALJEN SCUM CLEANER
7930013608019	DETERGENT
7930013608050	STAINLESS CLEAN
7930013623208	OVEN & GRILL CL
7930013632818	CLEANING COMPOUND SOLVENT-DETERGENT, 1GAL.,
7930013632819	CLEANING COMPOUND SOLVENT-DETERGENT, 22OZ.,

NSN	Nomenclature
7930013808395	STRIP STEP OFF WAX REMOVER
7930013813349	POLISH, FURNITURE
7930013813398	BLAST-OFF 1 QT
7930013813499	GLASS CLEANER, 32 OZ
7930014181238	CLEANING SOLUTION, LIME AWAY
7930ECO61234509	REFILL AIR FRES
7930ECO92018878	DISP.AIR FRESHN
7930PB0250010	PAN DANDY
7930PB0250024	LIME A WAY
8010005825382	LACQUER, BLACK
8010005843149	LACQUER, OD
8030009991016	PRESERVATING COATING
8030014189008	CORROSION PREVENTIVE COMPOUND WD-40
8040001429193	ADHESIVE 1 OZ., SUPER GLUE
8040010398132	ADHESIVE, GLUE STICK
913001V401672	SUPER UNLEADED
914001V401673	DIESEL COUPONS

Source: Ms. Dawn LaFalce, HQ, USAREUR, ODCSLOG, August 1999.

Appendix H
Suggested Policy Memoranda

XX Oct 00

AEAGD-MD-LRB (750-1)

SUBJECT: Hazardous Material Management Program—Implementation of Authorized Use/User Lists and User Stockage Lists

SEE DISTRIBUTION

1. References:

   a. AR 710-2, Inventory Management Supply Policy Below the Wholesale Level, 31 Oct 97, with USAREUR Supplement.

   b. AR 200-1, Environmental Protection and Enhancement, 21 Feb 97, with USAREUR Supplement.

   c. AEAGD-MD-LRB Information Paper, Hazardous Material (HAZMAT) Management at the Unit Level, 10 Mar 99.

2. The high cost and potential liabilities associated with hazardous material (HM) use and resulting hazardous waste (HW) generation in USAREUR have established hazardous substance management (both HM and HW) as our top environmental pollution prevention priority. Recent studies completed in support of the Hazardous Material Management Program (HMMP) have identified several systemic issues that must be resolved. Specific deficiencies and/or problem areas include:

   - Too many HM line items being stored; significant quantities of unused HM disposed as HW

   - Poor inventory control and shelf-life management practices; too many HM storage locations; no accountability for HM once issued

   - Poor documentation regarding HM use, ordering, and appropriate stockage levels; HMs on hand that do not fit the stated mission activities of ordering organizations.

3. Effectively addressing the deficiencies noted above will require the implementation of a number of improved business practices, including increased HM requisitioning controls and restrictions on stocking HM at the organizational

level. To achieve that end, all requisitioning organizations and activities are to develop and maintain HM authorized use/user lists (AULs) and user stockage lists (USLs), as described below:

- *Authorized Use Lists*—identify by NSN and nomenclature the specific HM items an organization can order (see Attachment A for an example). Unit commanders, working in close coordination with their supporting environment, safety, and occupational health (ESOH) staff, should compile the list. The list will then be reviewed, validated, and approved by a designated individual at least one level higher within the immediate chain of command (e.g., company AULs will be approved by the Battalion Commander or designated representative). Approved AULs will be forwarded to this HQ, ATTN: AEAGD-MD-LRB for entry into SARSS. Once entered into SARSS, requisitions for hazardous materials will be automatically screened at the SSA level against the approved AUL and rejected if the item is not on the approved list (local purchases of HM items will be addressed under a separate memo). Authorized use lists will be updated annually.

- *Authorized User Lists*—identify by name the organizational personnel allowed to receive, transport, and/or use HM (see Attachment B for an example). As above, unit commanders, working in close coordination with their supporting ESOH staff, will compile each list, but no higher review or approval is required. Once the user list is completed, unit commanders will monitor local HM storage and issue procedures to ensure that only authorized personnel with a valid need, current training, and required personal protective equipment (PPE) are permitted to receive and use HMs. Authorized user lists will be reviewed and updated on a quarterly basis, or more frequently if required because of personnel turnover.

- *User Stockage Lists*—identify each HM authorized for use by the organization by NSN, description, and minimum and maximum stockage levels (see Attachment C for an example). Unit commanders will develop USLs on the basis of approved AULs, assigned facilities, equipment and weapons systems, and known mission requirements. As a general guideline in consideration of current order/ship times, units should never stock more than a 60-day supply of any HM item. The USL will be reviewed, validated, and approved by a designated individual at least one level higher within the immediate chain of command (e.g., company USLs will be approved by the Battalion Commander or designated representative). As part of the review and approval process, the USL should be compared to what was actually ordered and used during the preceding year. Upon approval of the USL, unit commanders will monitor and enforce USL restrictions. User stockage lists will be reviewed and updated at least annually.The procedures outlined above are effective immediately and will be a major area of interest on future command and annual general inspections.

4. My point of contact for this action is .....

//DCG//

Attachments

DISTRIBUTION:

Each SSA, SSO
Cdrs of each requisitioning organization
V Corps
21st TSC
USAREUR tenants

Attachment A

Example Authorized Use List

Hazardous Material Authorized Use List			
Unit or Organization			**DODAAC**
Co A, 901st Maintenance Battalion			WK4GCZ
Name of Unit or Organization POC	**Grade**	**Duty Position or Title**	
John R. Sullivan	CPT	Commanding Officer	
AUL Version	**Effective Date**		**Date of Next Revision**
Initial ☐ Revision ☒	1/15/00		1/15/01
Name of IH Staff Reviewer		**Unit or Organization**	
Charles A. Wilson		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Industrial Hygiene Coordinator	GS-13	//signed//	1/8/00
Name of Safety Staff Reviewer		**Unit or Organization**	
John R. Thomas		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Safety Coordinator	GS-13	//signed//	1/8/00
Name of AUL Approving Authority		**Unit or Organization**	
Steven R. Stone		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Approved**
Commander	LTC	//signed//	1/12/00

Authorized Hazardous Material Items		
Item	**NSN**	**Description**
1	6850-00-14413221	Antifreeze
2	8030-00-02433285	Anti-seize compound
3	9150-00-11029455	Brake fluid, automotive
4	9150-00-10536688	Cleaner, lubricant
5	6850-00-09262275	Cleaning compound, white
6	7930-00-09265280	Detergent, general purpose
7	6820-00-02811985	Dry cleaning solvent
8	8010-00-02906984	Enamel, black gloss
9	8030-00-09262135	Filler, dent metal
10	9620-00-02336712	Graphite, dry
11	9150-00-09351017	Grease, automotive
12	9150-00-06982382	Hydraulic fluid, automotive
12	7510-00-01837697	Ink, marking stencil
13	6850-00-09354068	Leak detection fluid
14	9150-00-02732389	Lube oil, GP VV-L-800
15	9150-0011524118	Lubricating oil, engine
16	8010-00-08391439	Paint, heat resisting
17	6850-00-09739091	Penetrating fluid
18	7930-00-02667137	Polish, metal
19	8010-00-11930521	Primer, coating
20	8010-00-01605800	Remover, paint
21	8030-00-13504984	Sealing compound
22	6810-00-08938138	Sulfuric acid electrolyte
23	6830-00-13909622	Tetrafluorethane
24	8010-00-14415941	Thinner, paint
25	6810-00-02900048	Toluene-tech TT-T-54

Attachment B

Example Authorized User List

Hazardous Material Authorized User List			
Unit or Organization			**DODAAC**
Co A, 901st Maintenance Battalion			WK4GCZ
Name of Unit or Organization POC	**Grade**	**Duty Position or Title**	
Bill R. Smith	1LT	Executive Officer	
AUL Version	**Effective Date**		**Date of Next Revision**
Initial ☐ Revision ☒	1/15/00		4/15/00
Name of IH Staff Reviewer		**Unit or Organization**	
Charles A. Wilson		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Industrial Hygiene Coordinator	GS-13	//signed//	1/8/00
Name of Safety Staff Reviewer		**Unit or Organization**	
John R. Thomas		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Safety Coordinator	GS-13	//signed//	1/8/00
Name of AUL Approving Authority		**Unit or Organization**	
John R. Sullivan		Co A, 901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Approved**
Commander	CPT	//signed//	1/12/00

Authorized User Data		
Rank	**Name**	**Duty Position**
SFC	John R. Wilson	Motor Sergeant

Hazardous Materials Authorized for Use

Item	NSN	Description
1	6850-00-14413221	Antifreeze
2	8030-00-02433285	Anti-seize compound
3	9150-00-11029455	Brake fluid, automotive
4	9150-00-10536688	Cleaner, lubricant
5	6850-00-09262275	Cleaning compound, white
6	7930-00-09265280	Detergent, general purpose
7	6820-00-02811985	Dry cleaning solvent
8	8010-00-02906984	Enamel, black gloss
9	8030-00-09262135	Filler, dent metal
10	9620-00-02336712	Graphite, dry
11	9150-00-09351017	Grease, automotive
12	9150-00-06982382	Hydraulic fluid, automotive
12	7510-00-01837697	Ink, marking stencil
13	6850-00-09354068	Leak detection fluid
14	9150-00-02732389	Lube oil, GP VV-L-800
15	9150-0011524118	Lubricating oil, engine
16	8010-00-08391439	Paint, heat resisting
17	6850-00-09739091	Penetrating fluid
18	7930-00-02667137	Polish, metal
19	8010-00-11930521	Primer, coating
20	8010-00-01605800	Remover, paint
21	8030-00-13504984	Sealing compound
22	6810-00-08938138	Sulfuric acid electrolyte
23	6830-00-13909622	Tetrafluorethane
24	8010-00-14415941	Thinner, paint

Attachment C

Example User Stockage List

Hazardous Material User Stockage List

Unit or Organization			DODAAC
Co A, 901st Maintenance Battalion			WK4GCZ
Name of Unit or Organization POC	**Grade**	**Duty Position or Title**	
John R. Sullivan	CPT	Commanding Officer	
USL Version	**Effective Date**		**Date of Next Revision**
Initial ☐ Revision ☒	1/15/00		1/15/01
Name of Environmental Staff Reviewer		**Unit or Organization**	
Robert A. Ford		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Environmental Coordinator	GS-13	//signed//	1/8/00
Name of IH Staff Reviewer		**Unit or Organization**	
Charles A. Wilson		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Industrial Hygiene Coordinator	GS-13	//signed//	1/8/00
Name of Safety Staff Reviewer		**Unit or Organization**	
John R. Thomas		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Reviewed**
Battalion Safety Coordinator	GS-13	//signed//	1/8/00
Name of USL Approving Authority		**Unit or Organization**	
Steven R. Stone		901st Maintenance Battalion	
Duty Position or Title	**Grade**	**Signature**	**Date Approved**
Commander	LTC	//signed//	1/12/00

Authorized Hazardous Material Stockage Levels

Item	NSN	Description	UM	Min	Max
1	6850-00-14413221	Antifreeze	GAL	6	12
2	8030-00-02433285	Anti-seize compound	TUBE	3	5
3	9150-00-11029455	Brake fluid, automotive	GAL	2	4
4	9150-00-10536688	Cleaner, lubricant	PT	10	20
5	6850-00-09262275	Cleaning compound, white	PT	25	35
6	7930-00-09265280	Detergent, general purpose	BOX	10	15
7	6820-00-02811985	Dry cleaning solvent	GAL	15	25
8	8010-00-02906984	Enamel, black gloss	PT	25	35
9	8030-00-09262135	Filler, dent metal	KIT	1	2
10	9620-00-02336712	Graphite, dry	LB	1	2
11	9150-00-09351017	Grease, automotive	CN	2	4
12	9150-00-06982382	Hydraulic fluid, automotive	QT	16	24
12	7510-00-01837697	Ink, marking stencil	PT	2	4
13	6850-00-09354068	Leak detection fluid	BOX	1	2
14	9150-00-02732389	Lube oil, GP VV-L-800	CN	4	6
15	9150-0011524118	Lubricating oil, engine	DRM	1	2
16	8010-00-08391439	Paint, heat resisting	QT	1	2
17	6850-00-09739091	Penetrating fluid	CN	1	2
18	7930-00-02667137	Polish, metal	PT	1	2
19	8010-00-11930521	Primer, coating	KIT	2	4
20	8010-00-01605800	Remover, paint	GAL	5	10
21	8030-00-13504984	Sealing compound	GAL	2	4
22	6810-00-08938138	Sulfuric acid electrolyte	GAL	5	8
23	6830-00-13909622	Tetrafluorethane	CYL	1	2
24	8010-00-14415941	Thinner, paint	CN	1	2
25	6810-00-02900048	Toluene-tech TT-T-54	GAL	1	2

XX Oct 00

AEAGD-MD-LRB (750-1)

SUBJECT: Turn-in Procedures for Excess Serviceable Hazardous Material

SEE DISTRIBUTION

1. References:

   a. AR 710-2, Inventory Management Supply Policy Below the Wholesale Level, 31 Oct 97, with USAREUR Supplement.

   b. DoD 4140.27-M, Shelf Life Item Management Manual, 26 Sep 97.

2. During FY98 the hazardous waste (HW) disposal bill for USAREUR organizations and activities exceeded $6 million. Although this amount represents a reduction in HW disposal costs compared to previous years, it places an unacceptable drain on already scarce resources. Although some HW generation and disposal is expected as a routine cost of doing business, we must ensure that such disposal occurs only as a last resort, after all other alternatives have been exhausted.

3. Recent studies completed in support of the Hazardous Material Management Program (HMMP) have identified some alarming trends. In particular, large quantities of unused, serviceable HM are being turned in to the Defense Reutilization and Marketing Office (DRMO). Although the DRMO makes every attempt to ensure reuse or sale/salvage, a significant percentage of what is turned in ultimately is disposed as HW. This deals us a double financial blow because we have had to purchase and dispose of HMs that probably were not needed and should never have been requisitioned in the first place.

4. Reference 1.a. stipulates that excess serviceable HM should be turned in to the supporting SSA for restock and subsequent reissue. All organizations and activities will ensure that this procedure is strictly followed as the preferred alternative. Additionally, before disposing of excess HM that has exceeded the posted shelf life, organizations and activities should consult DoD 4140.27-M (reference 1.b.) to determine if the shelf life has been extended. Supporting SSAs will assist in making this determination, if necessary. If the shelf life has been extended, the HM should be turned in to the SSA. If the shelf life has not been extended, the HM should be disposed as HW per current operating procedures.

5. In those rare instances where the supporting SSA cannot accept excess serviceable HM for restock because of operational constraints, the holding organization should first seek to turn in the HM to the Wuerzburg Hazardous Material Reuse Center (HMRC) or other available reuse facilities. Failing that, then and only then, the HM should be turned in to the supporting DRMO for reuse, resale, or disposal.

6. Note that the procedures outlined above apply only to national stock number (NSN) items originally procured through SARSS and/or the SSSC system. In the case of excess serviceable HMs purchased locally, holding organizations should first seek to return them to the original supplier as a take-back or credit toward future purchases. Failing that, the HMs should be turned in to the HMRC or other available reuse facility or to the DRMO for ultimate disposition.

7. The procedures outlined above are effective immediately and will be a major area of interest on future command and annual general inspections.

8. My point of contact for this action is .....

//DCG//

DISTRIBUTION:

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XX Oct 00

AEAGD-MD-LRB (750-1)

SUBJECT: Guidelines for Local Purchase of Hazardous Materials

SEE DISTRIBUTION

1. References:

AR 710-2, Inventory Management Supply Policy Below the Wholesale Level, 31 Oct 97, with USAREUR Supplement.

a. AR 200-1, Environmental Protection and Enhancement, 21 Feb 97, with USAREUR Supplement.

b. AEAGD-MD-LRB Information Paper, Hazardous Material (HAZMAT) Management at the Unit Level, 10 Mar 99.

c. AEAGD-MD-LRB Memorandum, Hazardous Material Management Program–Implementation of Authorized Use/User Lists and User Stockage Lists, XX Apr 00.

d. AEAGD-MD-LRB Memorandum, Hazardous Material Procurement–Use of Green Product Catalogs, XX Apr 00.

2. Reference 1.d. establishes requirements for all requisitioning organizations and activities to develop and implement authorized use lists (AULs) and user stockage lists (USLs). The primary purpose for the AUL/USL is to increase control over the purchase and storage of hazardous materials (HMs). Increased control over HM items is needed to effectively address the escalating costs and liabilities associated with HM acquisition, storage, transport, use, and disposal.

3. It is imperative that these requisitioning restrictions be equally applied to all HM sources of supply, including DPW and other local purchases. Accordingly, all requisitioning organizations and activities will ensure that the following actions are taken before purchasing any HM item from local suppliers (whether by credit card or BPA):

a. Unit material managers (UMMs) will carefully review all local purchase requests to ascertain whether they contain HM items.

b. Purchase requests containing HM items will be cross-walked against the requisitioning organization's approved AUL to verify that the HM item is authorized for use.

c. Purchase requests for HM items that are not on the requisitioner's AUL will be disapproved.

d. Purchase requests for HM items that are on the requisitioner's AUL will be screened against DLA and/or GSA green product catalogs (see reference 1.e.) to determine if non-hazardous or less-hazardous substitutes meeting the operational requirement are reasonably available. When this is the case, the purchaser will be required to submit a requisition for the green product in lieu of the HM local purchase.

e. Purchase requests for HM items that are on the requisitioner's AUL for which there is no green product substitute available will be approved, but only after the requisitioner certifies (in writing) that purchase of the HM items will not result in stockage levels that will exceed the approved USL.

4. The procedures outlined above are effective immediately, and will be a major area of interest on future command and annual general inspections.

5. My point of contact for this action is .....

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Attachments

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XX Oct 00

AEAGD-MD-LRB (750-1)

SUBJECT: Hazardous Material Procurement–Use of Green Product Catalogs

SEE DISTRIBUTION

1. References:

   a. AR 710-2, Inventory Management Supply Policy Below the Wholesale Level, 31 Oct 97, with USAREUR Supplement.

   b. DLA Environmental Products Catalog, 2 Jan 00.

   c. GSA Environmental Products Guide, 1999-2000 Edition.

2. During FY99, USAREUR organizations and activities requisitioned more than 2,600 unique hazardous material (HM) line items (valued at more than $42 million) through the Standard Army Retail Supply System (SARSS). Additional HM items also were procured through SSSCs and local purchase activities. Although the total amount of HMs procured through these latter sources has not been quantified, it is likely that they were equally substantial. HM items that are not totally consumed in use ultimately must be disposed as hazardous waste (HW), adding an additional $6+ million to our total cost of doing business.

3. A principal objective of the ongoing USAREUR Hazardous Material Management Program (HMMP) is to reduce the acquisition and use of HM and subsequent HW disposal. One approach to achieving that end is to identify and use non-hazardous or less-hazardous substitutes for HM items. As the primary suppliers of HM items within theater, the Defense Logistics Agency (DLA) and the General Services Administration (GSA) have developed and fielded catalogs of environmentally preferable products. Commonly called "green product" catalogs, they offer a wide selection of everyday products (e.g., paints, thinners, cleaning supplies) that can be used in lieu of their more hazardous counterparts. Although these products are not always completely non-hazardous, green product catalog items usually are much less hazardous than the items they are intended to replace. As a result, they pose less exposure risk to personnel who use them and usually do not have to be disposed as HW.

4. It is imperative that we take maximum advantage of these tools for reducing HM acquisitions. Accordingly, before requisitioning or otherwise purchasing (e.g., SSSC or local purchase) HM items for non-weapons system and facility O&M applications, organizations and activities should first determine if appropriate green product catalog substitutes are available. When available, green product catalog items should be procured as the alternative of choice to meet requirements. This is especially true for paint and paint products, which represent one of

the single largest waste stream components in USAREUR. Organizations and activities should use existing stocks of the more hazardous high-VOC (volatile organic compound) paint products until exhausted. Once these high-VOC paint products are exhausted, paint products should be purchased only from green product catalogs.

5. Current green product catalogs can be readily accessed though the Internet at the following Web sites:

- DLA: http://www.dscr.dla.mil/products/epa/eppcat.htm
- GSA: http://pub.fss.gsa/gov/environ

Hard copies of the catalogs are available by special request, but only for organizations that do not have Internet access.

6. Note that although the green products available through these catalogs generally are preferable to their more hazardous alternatives, in some instances they can cause other problems (e.g., rusting of metal parts by aqueous solvents). It is important to carefully review the specifications for these products in relation to the intended application to minimize the potential consequences of incompatible use.

7. The procedures outlined above are effective immediately and will be a major area of interest on future command and annual general inspections.

8. My point of contact for this action is .....

//DCG//

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Appendix I

Example Authorized Use List, Authorized User List, and User Stockage List

Table I-1. Example Authorized Use List (AUL) for Hazardous Material

Hazardous Material Authorized Use List			
Unit or Organization			DODAAC
Co A, 901st Maintenance Battalion			WK4GCZ
Name of Unit or Organization POC	Grade	Duty Position or Title	
John R. Sullivan	CPT	Commanding Officer	
AUL Version	Effective Date		Date of Next Revision
Initial ☐ Revision ☒	1/15/00		1/15/01
Charles A. Wilson		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Industrial Hygiene Coordinator	GS-13	//signed//	1/8/00
Name of Safety Staff Reviewer		Unit or Organization	
John R. Thomas		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Safety Coordinator	GS-13	//signed//	1/8/00
Name of AUL Approving Authority		Unit or Organization	
Steven R. Stone		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Approved
Commander	LTC	//signed//	1/12/00

Authorized Hazardous Material Items		
Item	**NSN**	**Description**
1	6850-00-14413221	Antifreeze
2	8030-00-02433285	Anti-seize compound
3	9150-00-11029455	Brake fluid, automotive
4	9150-00-10536688	Cleaner, lubricant
5	6850-00-09262275	Cleaning compound, white
6	7930-00-09265280	Detergent, general purpose
7	6820-00-02811985	Dry cleaning solvent
8	8010-00-02906984	Enamel, black gloss
9	8030-00-09262135	Filler, dent metal
10	9620-00-02336712	Graphite, dry
11	9150-00-09351017	Grease, automotive
12	9150-00-06982382	Hydraulic fluid, automotive
12	7510-00-01837697	Ink, marking stencil
13	6850-00-09354068	Leak detection fluid
14	9150-00-02732389	Lube oil, GP VV-L-800
15	9150-0011524118	Lubricating oil, engine
16	8010-00-08391439	Paint, heat resisting
17	6850-00-09739091	Penetrating fluid
18	7930-00-02667137	Polish, metal
19	8010-00-11930521	Primer, coating
20	8010-00-01605800	Remover, paint
21	8030-00-13504984	Sealing compound

Table I-2. Example Authorized User List (AUL) for Hazardous Material

Hazardous Material Authorized User List			
Unit or Organization			DODAAC
Co A, 901st Maintenance Battalion			WK4GCZ
Name of Unit or Organization POC	Grade	Duty Position or Title	
Bill R. Smith	1LT	Executive Officer	
AUL Version	Effective Date		Date of Next Revision
Initial ☐ Revision ☒	1/15/00		4/15/00
Name of IH Staff Reviewer		Unit or Organization	
Charles A. Wilson		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Industrial Hygiene Coordinator	GS-13	//signed//	1/8/00
Name of Safety Staff Reviewer		Unit or Organization	
John R. Thomas		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Safety Coordinator	GS-13	//signed//	1/8/00
Name of AUL Approving Authority		Unit or Organization	
John R. Sullivan		Co A, 901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Approved
Commander	CPT	//signed//	1/12/00

Authorized User Data		
Rank	Name	Duty Position
SFC	John R. Wilson	Motor Sergeant

Hazardous Materials Authorized for Use		
Item	**NSN**	**Description**
1	6850-00-14413221	Antifreeze
2	8030-00-02433285	Anti-seize compound
3	9150-00-11029455	Brake fluid, automotive
4	9150-00-10536688	Cleaner, lubricant
5	6850-00-09262275	Cleaning compound, white
6	7930-00-09265280	Detergent, general purpose
7	6820-00-02811985	Dry cleaning solvent
8	8010-00-02906984	Enamel, black gloss
9	8030-00-09262135	Filler, dent metal
10	9620-00-02336712	Graphite, dry
11	9150-00-09351017	Grease, automotive
12	9150-00-06982382	Hydraulic fluid, automotive
12	7510-00-01837697	Ink, marking stencil
13	6850-00-09354068	Leak detection fluid
14	9150-00-02732389	Lube oil, GP VV-L-800
15	9150-0011524118	Lubricating oil, engine
16	8010-00-08391439	Paint, heat resisting
17	6850-00-09739091	Penetrating fluid
18	7930-00-02667137	Polish, metal
19	8010-00-11930521	Primer, coating
20	8010-00-01605800	Remover, paint

Table I-3. Example User Stockage List (USL) for Hazardous Material

Hazardous Material User Stockage List			
Unit or Organization			DODAAC
Co A, 901st Maintenance Battalion			WK4GCZ
Name of Unit or Organization POC	Grade	Duty Position or Title	
John R. Sullivan	CPT	Commanding Officer	
USL Version	Effective Date		Date of Next Revision
Initial ☐ Revision ☒	1/15/00		1/15/01
Name of Environmental Staff Reviewer		Unit or Organization	
Robert A. Ford		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Environmental Coordinator	GS-13	//signed//	1/8/00
Name of IH Staff Reviewer		Unit or Organization	
Charles A. Wilson		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Industrial Hygiene Coordinator	GS-13	//signed//	1/8/00
Name of Safety Staff Reviewer		Unit or Organization	
John R. Thomas		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Reviewed
Battalion Safety Coordinator	GS-13	//signed//	1/8/00
Name of USL Approving Authority		Unit or Organization	
Steven R. Stone		901st Maintenance Battalion	
Duty Position or Title	Grade	Signature	Date Approved
Commander	LTC	//signed//	1/12/00

Authorized Hazardous Material Stockage Levels					
Item	**NSN**	**Description**	**UM**	**Min**	**Max**
1	6850-00-14413221	Antifreeze	GAL	6	12
2	8030-00-02433285	Anti-seize compound	TUBE	3	5
3	9150-00-11029455	Brake fluid, automotive	GAL	2	4
4	9150-00-10536688	Cleaner, lubricant	PT	10	20
5	6850-00-09262275	Cleaning compound, white	PT	25	35
6	7930-00-09265280	Detergent, general purpose	BOX	10	15
7	6820-00-02811985	Dry cleaning solvent	GAL	15	25
8	8010-00-02906984	Enamel, black gloss	PT	25	35
9	8030-00-09262135	Filler, dent metal	KIT	1	2
10	9620-00-02336712	Graphite, dry	LB	1	2
11	9150-00-09351017	Grease, automotive	CN	2	4
12	9150-00-06982382	Hydraulic fluid, automotive	QT	16	24
12	7510-00-01837697	Ink, marking stencil	PT	2	4
13	6850-00-09354068	Leak detection fluid	BOX	1	2
14	9150-00-02732389	Lube oil, GP VV-L-800	CN	4	6
15	9150-0011524118	Lubricating oil, engine	DRM	1	2
16	8010-00-08391439	Paint, heat resisting	QT	1	2
17	6850-00-09739091	Penetrating fluid	CN	1	2
18	7930-00-02667137	Polish, metal	PT	1	2
19	8010-00-11930521	Primer, coating	KIT	2	4

Appendix J
Abbreviations

AAFES	Army and Air Force Exchange Service
AAPPSO	Army Acquisition Pollution Prevention Support Office
ABF	Availability Balance File
ACSLOG	Assistant Chief of Staff, Logistics
AFB	Air Force Base
ALCHMMI	Assessment of Logistics and Cost for Hazardous Materials Management Implementation
ALOC	air lines of communication
AMC	Army Materiel Command
AMDF	Army Master Data File
ASG	area support group
ASL	authorized stockage list
AUL	authorized use/user list
BOSS	Base Operations Supply System
BPA	blanket purchase agreement
BSB	base support battalion
CCAD	Corpus Christi Army Depot
CHRIMP	Consolidated Hazard Reutilization Inventory Management Program
CLIN	contract line item number
CONUS	continental United States
CSIF	central storage and issue facility
DCSENG	Deputy Chief of Staff, Engineer
DCSLOG	Deputy Chief of Staff, Logistics
DESCIM	Defense Environmental Security Corporate Information Management
DFAS	Defense Finance and Accounting Service
DLA	Defense Logistics Agency

DoD, DD	Department of Defense
DODAAC	Department of Defense Activity Account Code
DPW	Directorate of Public Works
DRM	Director of Resource Management
DRMO	Defense Reutilization and Marketing Office
DRMS-I	Defense Reutilization and Marketing Service, International
ECO	Environmental Compliance Officer
EPCRA	Emergency Planning and Community Right to Know Act
ESOH	environment, safety, and occupational health
FSC	federal supply class
FTE	Full-time equivalent
FY	fiscal year
GCSS-A	Global Combat Service Support-Army
GSA	General Services Administration
HAZCOM	hazard communication
HAZMAT	hazardous material
HIN	hazardous item number
HM	hazardous material
HMCC	hazardous material control center
HMIC	hazardous material indicator code
HMIS	hazardous material information system
HMMP	Hazardous Material Management Program
HMMS	Hazardous Material Management System
HMRC	Hazardous Material Reuse Center
HOTS	Hazardous Waste Obligation Tracking System
HQ	Headquarters
HQDA	Headquarters, Department of the Army
HSMS	Hazardous Substance Management System
HW	hazardous waste
IMM	integrated material manager
IPT	integrated process team
JEMMS	Joint Environmental Material Management System

JLSC	Joint Logistics Systems Center
KIC	Kaiserslautern Industrial Center
MMC	Materiel Management Center
MOA	Memorandum of Agreement
MRO	materiel release order
MSDS	material safety data sheet
NSN	national stock number
O&M	operation and maintenance
OCONUS	outside the continental United States
ODCSENG	Office of the Deputy Chief of Staff, Engineer
ODCSLOG	Office of the Deputy Chief of Staff, Logistics
OSHA	Occupational Safety and Health Administration
P2	pollution prevention
PLL	prescribed load list
POL	petroleum, oil, and lubricants
PPE	personal protective equipment
PPOA	pollution prevention opportunity assessment
RAID	Rapid Access Information DLA
ROD	record of demands
SARSS	Standard Army Retail Supply System
SLOC	sea lines of communication
SOP	standing operating procedure
SSA	supply support activity
SSO	supply support office
SSSC	Self-service supply center
STANFINS	Standard Army Finance System
TAMMC	Theater Army Material Management Center
TCE	trichloroethylene
TDC	Theater Distribution Center
TOA	table of distribution and allowances
TOE	table of organization and equipment
TRI	toxics release inventory

TSD	treatment, storage, and disposal
UBL	unit basic load
ULLS	Unit Level Logistics System
UR	USAREUR Regulation
USA	United States Army
USAREUR	United States Army Europe
USL	user stockage list
VOC	volatile organic compound

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13. ABSTRACT *(Maximum 200 words)*

This report examines the benefit to be gained by integrating traditional "pharmacy" business practices in the existing supply system rather than building a parallel system for hazardous material/hazardous waste (HM/HW) management. The study evaluates the United States Army Europe (USAREUR) logistics system, its inherent life-cycle management processes, and its ability to support proven HM/HW management and environmental pollution prevention principles. The goal was to blueprint the current system and examine the potential for building improved HM/HW management into the Army logistics system rather than grafting management schemes external to the logistic system for HM/HW management. The findings are that increased HM requisitioning and stockage controls are key to addressing most USAREUR HM management issues. In large part, this includes taking steps to integrate business practices to the maximum extent practicable, while continuing to evaluate ongoing traditional pharmacy implementation initiatives in consideration of business practice integration results. The study suggests that the ultimate objective should be to manage HM/HW throughout their entire life cycle as a fully integrated program, under the lead of a single agency—ideally one from the logistics community.

14. SUBJECT TERMS

hazardous material management, hazardous waste management, integrated life-cycle hazardous material management, pharmacy concept, pharmacy business practices.

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